NEW

FIND OUR PRODUCTS ONLINE

SHOP.DIAGER-INDUSTRIE.COM

CUTTING TOOLS FOR SOFT MATERIALS

SPECIFICALLY FOR PLASTICS, ALUMINIUM, WOOD, COMPOSITES, ETC...

FABRICATION FRANÇAISE

DIAGER® INDUSTRIE

DIAGER®
INDUSTRIE

For almost 70 years, Diager Industrie has operated as a specialised French designer and manufacturer of rotary carbide cutting tools. Located in Poligny in the Jura region of eastern France, the company develops special and standard, single-piece cutting tools. Diager Industrie draws on all the synergies generated by a group structure to design high-quality tools for manufacturers. The company has fostered strong partnerships with leading players in the engineering, aeronautics, space and automotive industries and focuses its expertise on a range of high quality products.

RESEARCH & DEVELOPMENT:
TAKING THE COMPANY TO THE NEXT LEVEL

We invest heavily in research, development and innovation. Our ambition is to be able to resolve the machining problems you face. Our investments enable us to develop comprehensive and innovative solutions for these problems. For all your drilling, milling and boring operations, our experts develop not only cutting tools but also the optimal process for your application since we are, first and foremost, a supplier of solutions.

To facilitate this, we have set up: a team tasked with finding solutions that optimise your manufacturing strategy and industrial logistics; and testing platforms designed to be compatible with customers' equipment that enables us to validate our machining processes in real-life conditions. These resources enable us to accurately measure the productivity achievable with our cutting tools and thus provide you with a complete picture of the costs associated with our solutions and the production times they allow. Consequently, we can meet, very precisely, the most demanding requirements specifications and guarantee the performance of our cutting tools.

Our pool of 135 machining tools, 45 of which are numerically controlled, gives us total control over our processes and tools, to make them even more efficient.

A MOTIVATED AND COMMITTED COMPANY

Diager Industrie's ethos is founded on excellent customer service and on ensuring the high quality of its products. Thanks to modern technologies and a significant investment from our staff, we do everything we can to reduce our impact on the environment. By adhering to a comprehensive environmental policy, we can guarantee that we control our activities and products. Caring for the environment is a constant priority, and informs all the activities performed by the company.

PROCEDURES AND ACCREDITATIONS:

Certified ISO 9001 and 14001

Quality

Compliance with standards, respect for the environment

Awarded CSR (ISO) 26000 by AFNOR and certified at the "CONFIRMED" level.

Our approach to CSR is a philosophy which drives our actions and guides our strategy. Our commitment to CSR indicates that our organisation takes responsibility for the impacts of its decisions and of its duties with regard to the sustainable development of its activities. We are proud of our certification which recognises our commitments to the well-being of our staff, our respect for the environment and product quality.

Diager Industrie solutions come with the additional benefits of comprehensive support and optimal technical follow-up. Our teams are ready to work with you to ensure your success.

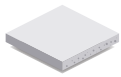
MATERIALS


THERMOSETTING PLASTICS

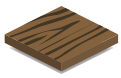
THERMOSET PLASTICS
(PUR, Epoxy, DAP, PI, PF)


THERMO-PLASTICS

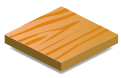
THERMOPLASTICS
(PMMA, PE, PP, ABS, PC, POM, PET, PEEK, PS, PA)


EXPANDED PVC

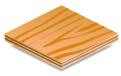
EXPANDED PVC


HARDWOODS

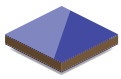
HARDWOODS
(Oak, beech, chestnut, elm, acacia, etc.)


SOFTWOODS

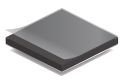
SOFTWOODS
(Pine, birch, larch, spruce, etc.)


COMPOSITE WOOD PRODUCTS

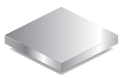
COMPOSITE WOOD PRODUCTS
(MDF, melamine, plywood, etc.)


COMPACT LAMINATES

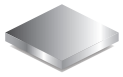
COMPACT LAMINATES
(TRESPA©, FunderMAX©, etc.)


PHENOLIC MATERIALS

PHENOLIC MATERIALS


NON-FERROUS METALS

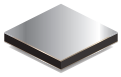
NON-FERROUS METALS
(Aluminium, brass)


STEEL

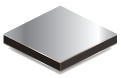
STEEL


STAINLESS STEEL

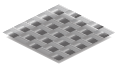
STAINLESS STEEL


ALUMINIUM-FACED COMPOSITE PANELS

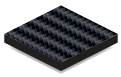
ALUMINIUM-FACED COMPOSITE PANELS
(Dibond©, Alucobond©)


STEEL-FACED COMPOSITE PANELS

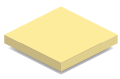
STEEL-FACED COMPOSITE PANELS
(Steelbond©)


GLASS-FILLED PLASTICS

GLASS-FILLED PLASTICS
(<40% glass fibres)


KEVLAR

KEVLAR


FOAMED MATERIALS

FOAMED MATERIALS

APPLICATIONS

POS ADVERTISING

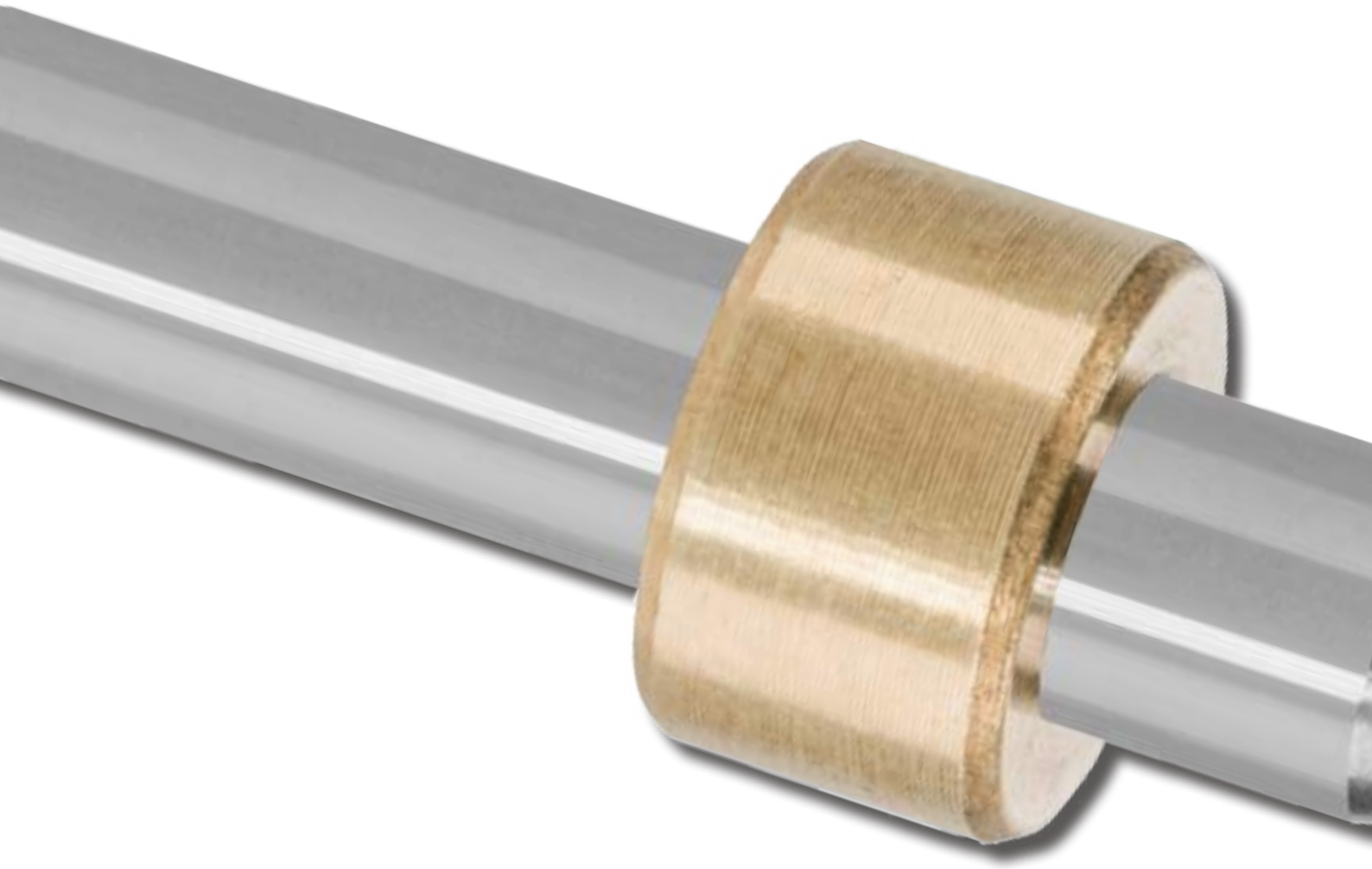
SIGNAGE

FACADES

JOINERY ITEMS

ACCESSORIES

STANDS

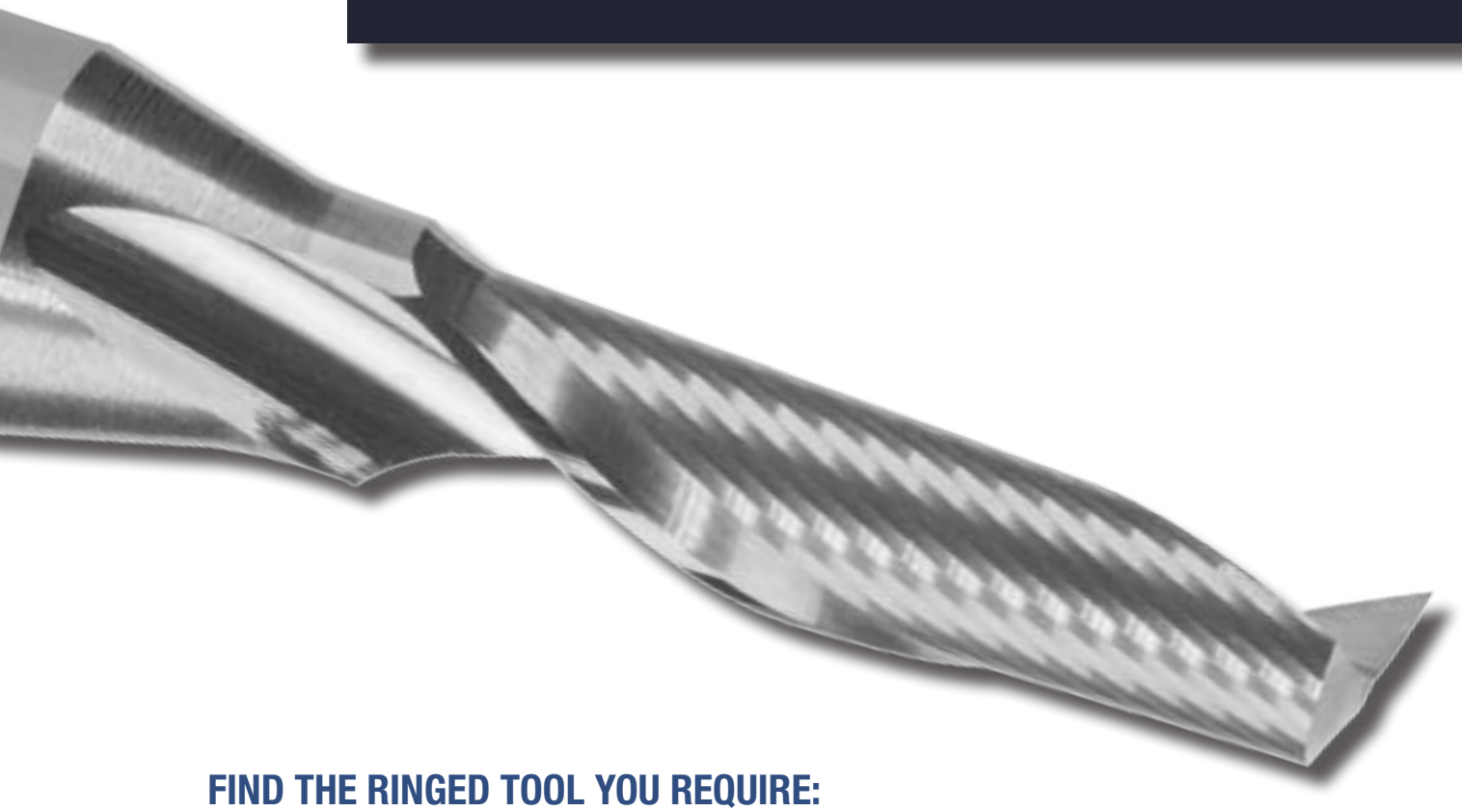


DIAGER INDUSTRIE NOW OFFERS A RANGE OF RINGED TOOLS FOR PLASTICS AND COMPOSITES ON CUTTERS WITH A 6 MM SHANK.

ZÜND MACHINES COMPATIBLE, THE NEW RANGE OF DIAGER INDUSTRIE TOOLS OFFERS COMPREHENSIVE CHOICE, HIGH QUALITY AND OUTSTANDING PERFORMANCE FOR ALL YOUR MACHINING NEEDS.

NEW

RINGED CUTTERS



FIND THE RINGED TOOL YOU REQUIRE:

Example with reference:

- standard without ring: 4013--0400C
- with ring: 4013--0400C-B

Add “-B” to the end of your usual reference

FIND THE REFERENCES IN OUR PRODUCT LISTS:

Ø D1 mm	Ø D2 mm	L2 mm	L1 mm	z	Part Ref.	With ring	Standard coating	With ring	Upgraded coating	With ring
4	**6***	10	50	1	4023--0400	4023--0400-B	4023-X0400	4023-X0400-B	4023-NHC0400B	4023-NHC0400-B
5	**6***	12	50	1	4023--0500	4023--0500-B	4023-X0500	4023-X0500-B	4023-NHC0500B	4023-NHC0500-B

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CONTENTS

SINGLE-TOOTH CUTTERS WITH RIGHT-HAND HELIX

MATERIALS:

- THERMOSETTING PLASTICS
- THERMO-PLASTICS
- EXPANDED PVC
- HARDWOODS
- SOFTWOODS
- COMPOSITE WOOD PRODUCTS
- FOAMED MATERIALS

Possible uses:

- COMPACT LAMINATES
- ALUMINIUM-FACED COMPOSITE PANELS
- GLASS-FILLED PLASTICS

THE MOST VERSATILE RANGE

SMOOTH AND POLISHED FLUTE, LIMITED BUILT-UP EDGE EFFECTS

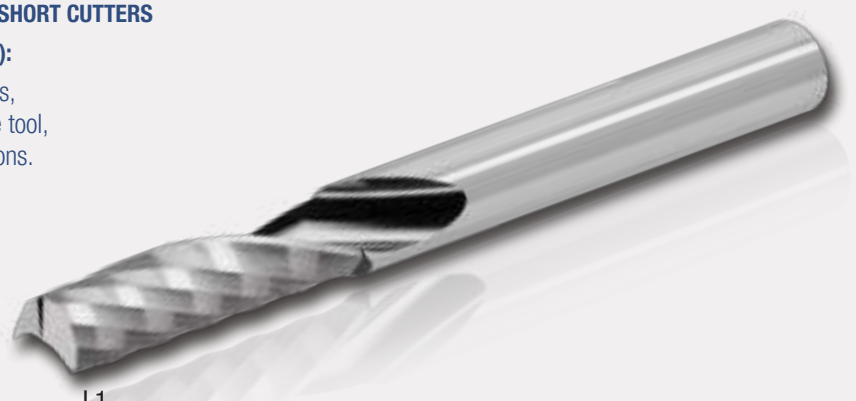
UPCUT TOOL, UPWARDS CHIP REMOVAL:

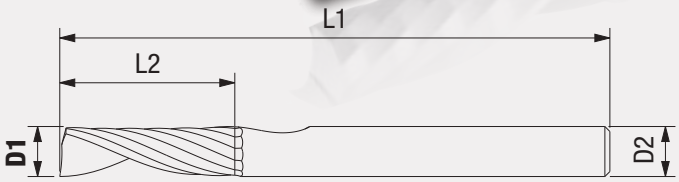
Chips evacuated efficiently.
The most commonly used.

WHEN POSSIBLE, SELECT SHORT CUTTERS

(CUTTING LENGTH = 2 X Ø):

- Improves surface finishes,
- Longer service life of the tool,
- Improves cutting conditions.





SOLID CARBIDE | UPCUT TOOL | MILLING / SLOTTING

Ø D1 mm	Ø D2 mm	L2 mm	L1 mm	z	Part Ref.	NEW With ring
1	**3***	4	30	1	4013--0100	
1.5	**3***	6	30	1	4013--0150	
2	2	4	30	1	4013--0200	
2	**6***	4	50	1	4013--0200A	4013--0200A-B
2	2	8	30	1	4013--0200B	
2	2	8	60	1	4013--0200C	
2	**3***	8	30	1	4013--0200D	
2	**6***	8	50	1	4013--0200E	4013--0200E-B
2.5	2.5	8	40	1	4013--0250	
2.5	2.5	8	60	1	4013--0250A	
3	3	6	40	1	4013--0300	
3	**6***	6	50	1	4013--0300A	4013--0300A-B
3	3	10	40	1	4013--0300B	
3	3	10	60	1	4013--0300C	
3	**6***	10	50	1	4013--0300D	4013--0300D-B
3	3	12	40	1	4013--0300E	
3	**6***	12	50	1	4013--0300F	4013--0300F-B
3	3	15	40	1	4013--0300G	
3	3	20	60	1	4013--0300H	
3	**6***	20	60	1	4013--0300J	4013--0300J-B
3	3	22	60	1	4013--0300K	
3.17	3.17	12.7	50.8	1	4013--0317	
3.17	**6.35***	12.7	50.8	1	4013--0317A	
4	4	8	50	1	4013--0400	
4	**6***	8	50	1	4013--0400A	4013--0400A-B
4	4	12	50	1	4013--0400B	
4	**6***	12	50	1	4013--0400C	4013--0400C-B
4	4	14	50	1	4013--0400D	
4	**6***	14	50	1	4013--0400E	4013--0400E-B

Ø D1 mm	Ø D2 mm	L2 mm	L1 mm	z	Part Ref.	NEW With ring
4	4	22	60	1	4013--0400F	
4	**6***	22	60	1	4013--0400G	4013--0400G-B
4	4	30	70	1	4013--0400H	
4.76	4.76	15.87	50.8	1	4013--0476	
4.76	**6.35***	15.87	50.8	1	4013--0476A	
4.76	**6.35***	31.75	76.2	1	4013--0476B	
5	5	16	60	1	4013--0500	
5	**6***	16	50	1	4013--0500A	4013--0500A-B
5	5	22	60	1	4013--0500B	
5	**6***	22	60	1	4013--0500C	4013--0500C-B
5	5	30	70	1	4013--0500D	
6	6	14	50	1	4013--0600	4013--0600-B
6	6	22	60	1	4013--0600A	4013--0600A-B
6	6	32	70	1	4013--0600B	4013--0600B-B
6	6	38	80	1	4013--0600C	4013--0600C-B
6.35	6.35	19.05	50.8	1	4013--0635	
6.35	6.35	28.57	76.2	1	4013--0635A	
6.35	6.35	38.1	76.2	1	4013--0635B	
8	8	22	60	1	4013--0800	
8	8	32	70	1	4013--0800A	
8	8	38	80	1	4013--0800B	
8	8	42	80	1	4013--0800C	
10	10	32	75	1	4013--1000	
10	10	45	85	1	4013--1000A	
12	12	32	75	1	4013--1200	
12	12	42	100	1	4013--1200A	
12	12	52	105	1	4013--1200B	
14	14	62	120	1	4013--1400	

***Strengthened shank**

VERSATILE RANGE

SMOOTH AND POLISHED FLUTE, LIMITED BUILT-UP EDGE EFFECTS
DOWNCUT TOOL, DOWNWARDS REMOVAL OF CHIPS

- Workpieces held better due to the downwards force.
- Limits the delamination of the upper face,
- Suited to thin materials,
- Milling thermoformed parts on CNC robots, reduction of vibrations.

CHIPS POORLY EVACUATED:

Provide clear space underneath or good suction of chips

SOLID CARBIDE | DOWNCUT TOOL | MILLING / SLOTTING

MATERIALS:


THERMOSETTING PLASTICS


THERMO-PLASTICS


EXPANDED PVC


HARDWOODS


SOFTWOODS


COMPOSITE WOOD PRODUCTS

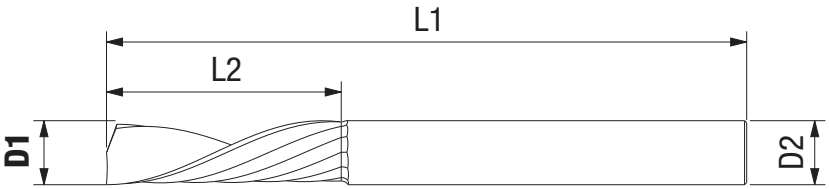

FOAMED MATERIALS

Possible uses:


COMPACT LAMINATES


ALUMINIUM-FACED COMPOSITE PANELS


GLASS-FILLED PLASTICS



Ø D1 mm	Ø D2 mm	L2 mm	L1 mm	z	Part Ref.	NEW With ring
1	**3***	4	30	1	4012--0100	
1.5	**3***	6	30	1	4012--0150	
2	2	8	30	1	4012--0200	
2	2	8	60	1	4012--0200A	
2	**3***	8	30	1	4012--0200B	
2	**6***	8	50	1	4012--0200C	4012--0200C-B
2.5	2.5	8	40	1	4012--0250	
2.5	2.5	8	60	1	4012--0250A	
3	3	10	40	1	4012--0300	
3	3	10	60	1	4012--0300A	
3	**6***	10	50	1	4012--0300B	4012--0300B-B
3.17	**6.35***	12.7	50.8	1	4012--0317	
4	4	12	50	1	4012--0400	
4	**6***	12	50	1	4012--0400A	4012--0400A-B

***Strengthened shank**

Ø D1 mm	Ø D2 mm	L2 mm	L1 mm	z	Part Ref.	NEW With ring
4	4	20	60	1	4012--0400B	
4	4	30	70	1	4012--0400C	
4	4	22	70	1	4012--0400D	
4.76	**6.35***	15.87	50.8	1	4012--0476	
5	5	16	60	1	4012--0500	
5	**6***	16	50	1	4012--0500A	4012--0500A-B
5	5	30	70	1	4012--0500B	
6	6	20	60	1	4012--0600	4012--0600-B
6	6	30	70	1	4012--0600A	4012--0600A-B
6	6	38	80	1	4012--0600B	4012--0600B-B
6.35	6.35	19.05	50.8	1	4012--0635	
8	8	22	60	1	4012--0800	
8	8	38	80	1	4012--0800A	
10	10	30	75	1	4012--1000	
12	12	30	75	1	4012--1200	

FAMILY 4013 S

SINGLE-TOOTH CUTTERS WITH RIGHT-HAND HELIX WITH FLAT TIP FOR FINISH

MATERIALS:

- THERMOSETTING PLASTICS
- THERMO-PLASTICS
- EXPANDED PVC
- HARDWOODS
- SOFTWOODS
- COMPOSITE WOOD PRODUCTS
- FOAMED MATERIALS

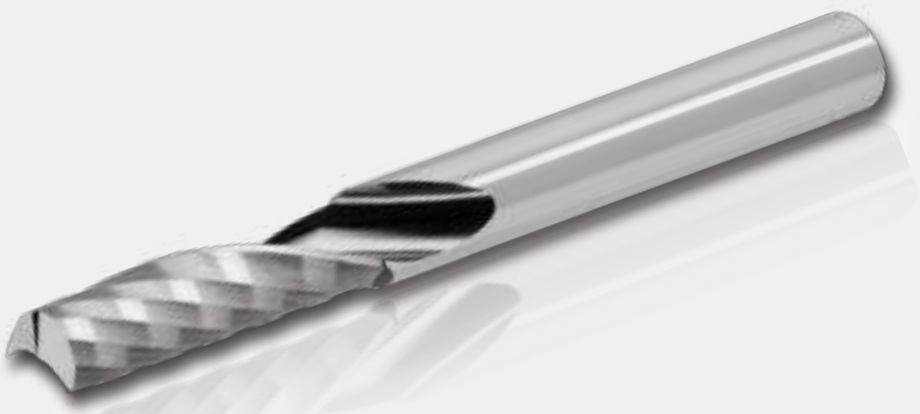
Possible uses:

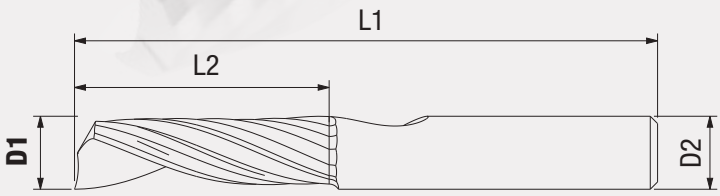
- COMPACT LAMINATES
- ALUMINIUM-FACED COMPOSITE PANELS
- GLASS-FILLED PLASTICS

CUTTER DERIVED FROM THE 4013 WITH FLAT TIP FOR FINISH.

IMPROVES THE SURFACE FINISH AT THE BOTTOM OF THE POCKET.
SMOOTH AND POLISHED FLUTE, LIMITED BUILT-UP EDGE EFFECTS.
UPCUT TOOL, UPWARDS REMOVAL OF CHIPS.
CHIPS EVACUATED EFFICIENTLY.

NEW





Carbide

SOLID CARBIDE

UPCUT TOOL

MILLING / SLOTTING

Ø D1 mm	Ø D2 mm	L2 mm	L1 mm	z	Part Ref.	NEW With ring
3	**6**	10	50	1	4013S--0300	4013S--0300-B
4	**6**	12	50	1	4013S--0400	4013S--0400-B
5	**6**	16	50	1	4013S--0500	4013S--0500-B
6	6	22	60	1	4013S--0600	4013S--0600-B
8	8	22	60	1	4013S--0800	
10	10	32	75	1	4013S--1000	
12	12	32	75	1	4013S--1200	

NEW

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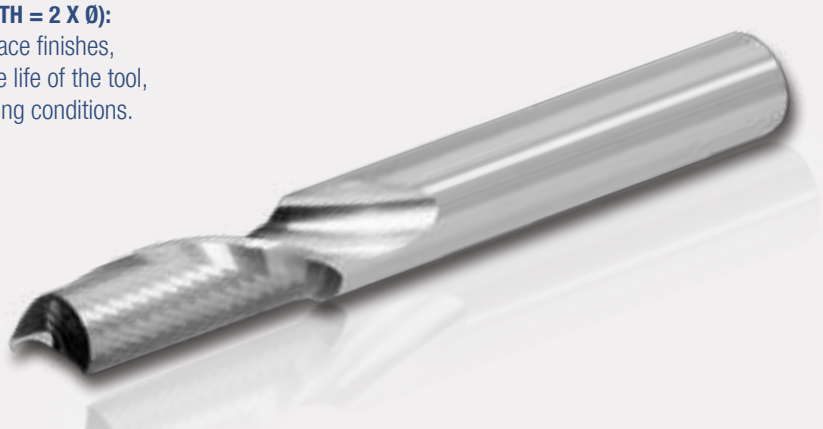
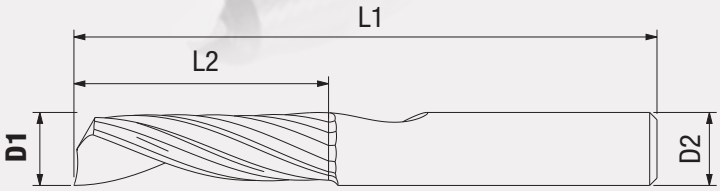
THIS RANGE'S GEOMETRY HAS BEEN SPECIALLY DEVELOPED TO PRODUCE A BETTER SURFACE FINISH IN PMMA, POLYCARBONATE, PA6, CORIAN AND COMPACT LAMINATES.

SMOOTH AND POLISHED FLUTE, LIMITED BUILT-UP EDGE EFFECTS.
UPCUT TOOL, UPWARDS REMOVAL OF CHIPS.
MORE RESISTANT TO ABRASION.

WHERE POSSIBLE, SELECT SHORT CUTTERS (CUTTING LENGTH = 2 X Ø):
- Improves surface finishes,
- Longer service life of the tool,
- Improves cutting conditions.





SOLID CARBIDE | UPCUT TOOL | MILLING / SLOTTING

Ø D1 mm	Ø D2 mm	L2 mm	L1 mm	z	Part Ref.	NEW With ring
2	**3***	4	30	1	4053--0200	
2	**6***	4	50	1	4053--0200A	4053--0200A-B
2	**6***	6	50	1	4053--0200B	4053--0200B-B
2	**3***	8	30	1	4053--0200C	
3	3	6	40	1	4053--0300	
3	**6***	6	50	1	4053--0300A	4053--0300A-B
3	3	9	40	1	4053--0300B	
3	**6***	9	50	1	4053--0300C	4053--0300C-B
4	4	8	50	1	4053--0400	
4	**6***	8	50	1	4053--0400A	4053--0400A-B
4	4	13	50	1	4053--0400B	
4	**6***	13	50	1	4053--0400C	4053--0400C-B
4.76	4.76	12.7	50.8	1	4053--0476	
5	5	16	60	1	4053--0500	
5	**6***	16	50	1	4053--0500A	4053--0500A-B
6	6	16	50	1	4053--0600	4053--0600-B
6	6	22	60	1	4053--0600A	4053--0600A-B
6	6	32	70	1	4053--0600B	4053--0600B-B
6.35	6.35	15.87	50.8	1	4053--0635	
8	8	22	60	1	4053--0800	
8	8	32	70	1	4053--0800A	
9.52	9.52	25.4	60.3	1	4053--0952	
10	10	23	60	1	4053--1000	
10	10	32	75	1	4053--1000A	
12	12	42	100	1	4053--1200	

***Strengthened shank**

MATERIALS:


THERMOSETTING PLASTICS


THERMO-PLASTICS


COMPACT LAMINATES


NON-FERROUS METALS


ALUMINIUM-FACED COMPOSITE PANELS

Possible uses:


EXPANDED PVC


HARDWOODS


SOFTWOODS


COMPOSITE WOOD PRODUCTS


GLASS-FILLED PLASTICS

SINGLE-TOOTH CUTTERS WITH RIGHT-HAND HELIX FOR ALUMINIUM

MATERIALS:

NON-FERROUS METALS

ALUMINIUM-FACED COMPOSITE PANELS

Possible uses:

THERMOSETTING PLASTICS

THERMO-PLASTICS

EXPANDED PVC

HARDWOODS

SOFTWOODS

COMPOSITE WOOD PRODUCTS

RANGE SPECIFICALLY FOR NON-FERROUS METALS (ALUMINIUM, BRASS, COPPER, ETC.)

SMOOTH AND POLISHED FLUTE, LIMITED BUILT-UP EDGE EFFECTS
UPCUT TOOL, UPWARDS REMOVAL OF CHIPS.

UNCOATED CUTTER, LUBRICATION RECOMMENDED.
COATED VERSION FOR MACHINING WITHOUT LUBRICATION.

SOLID CARBIDE | UPCUT TOOL | MILLING / SLOTTING

Ø D1 mm	Ø D2 mm	L2 mm	L1 mm	z	Part Ref.	NEW With ring	Standard coating	NEW With ring	Upgraded coating	NEW With ring
1.5	**3***	4	30	1	4023--0150		4023-X0150		4023-NHC0150	
2	**3***	5	30	1	4023--0200		4023-X0200		4023-NHC0200	
2.5	**3***	6	30	1	4023--0250		4023-X0250		4023-NHC0250	
3	3	8	40	1	4023--0300		4023-X0300		4023-NHC0300	
3.17	3.17	7.93	38.1	1	4023--0317		4023-X0317		4023-NHC0317	
3.17	**6.35***	7.93	50.8	1	4023--0317A		4023-X0317A		4023-NHC0317A	
4	**6***	10	50	1	4023--0400	4023--0400-B	4023-X0400	4023-X0400-B	4023-NHC0400	4023-NHC0400-B
4	4	12	60	1	4023--0400A		4023-X0400A		4023-NHC0400A	
4	4	20	60	1	4023--0400B		4023-X0400B		4023-NHC0400B	
4	4	30	70	1	4023--0400C		4023-X0400C		4023-NHC0400C	
4.76	4.76	12.7	50.8	1	4023--0476		4023-X0476		4023-NHC0476	
4.76	**6.35***	12.7	50.8	1	4023--0476A		4023-X0476A		4023-NHC0476A	
5	**6***	12	50	1	4023--0500	4023--0500-B	4023-X0500	4023-X0500-B	4023-NHC0500	4023-NHC0500-B
5	5	16	60	1	4023--0500A		4023-X0500A		4023-NHC0500A	
5	**8***	25	70	1	4023--0500B		4023-X0500B		4023-NHC0500B	
5	5	30	70	1	4023--0500C		4023-X0500C		4023-NHC0500C	
5	**8***	35	80	1	4023--0500D		4023-X0500D		4023-NHC0500D	
6	6	15	50	1	4023--0600	4023--0600-B	4023-X0600	4023-X0600-B	4023-NHC0600	4023-NHC0600-B
6	6	15	70	1	4023--0600A	4023--0600A-B	4023-X0600A	4023-X0600A-B	4023-NHC0600A	4023-NHC0600A-B
6	6	20	60	1	4023--0600B	4023--0600B-B	4023-X0600B	4023-X0600B-B	4023-NHC0600B	4023-NHC0600B-B
6	6	30	70	1	4023--0600C	4023--0600C-B	4023-X0600C	4023-X0600C-B	4023-NHC0600C	4023-NHC0600C-B
6	**8***	30	80	1	4023--0600D		4023-X0600D		4023-NHC0600D	
6	6	38	80	1	4023--0600E	4023--0600E-B	4023-X0600E	4023-X0600E-B	4023-NHC0600E	4023-NHC0600E-B
6.35	6.35	15.87	50.8	1	4023--0635		4023-X0635		4023-NHC0635	
8	8	20	60	1	4023--0800		4023-X0800		4023-NHC0800	
8	8	20	80	1	4023--0800A		4023-X0800A		4023-NHC0800A	
8	8	38	80	1	4023--0800B		4023-X0800B		4023-NHC0800B	
10	10	23	60	1	4023--1000		4023-X1000		4023-NHC1000	
10	10	23	100	1	4023--1000A		4023-X1000A		4023-NHC1000A	
10	10	30	75	1	4023--1000B		4023-X1000B		4023-NHC1000B	

***Strengthened shank**

RANGE SPECIFICALLY FOR NON-FERROUS METALS (ALUMINIUM, BRASS, COPPER, ETC.)

SMOOTH AND POLISHED FLUTE, LIMITED BUILT-UP EDGE EFFECTS
DOWNCUT TOOL, DOWNWARDS REMOVAL OF CHIPS

- Workpieces held better due to the downwards force.
- Limits the delamination of the upper face.
- Suited to thin materials.
- Milling thermoformed parts on CNC robots, reduction of vibrations.

UNCOATED CUTTER, LUBRICATION RECOMMENDED.
USE NHC COATED VERSION FOR LUBRICATION-FREE MACHINING

SOLID CARBIDE | DOWNCUT TOOL | MILLING / SLOTTING

MATERIALS:


NON-FERROUS METALS


ALUMINIUM-FACED COMPOSITE PANELS

Possible uses:


THERMOSETTING PLASTICS

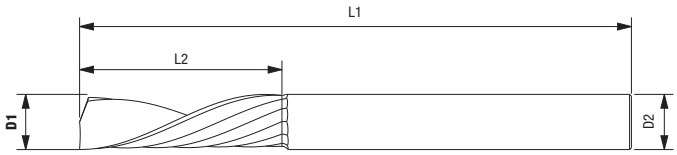

THERMO-PLASTICS


EXPANDED PVC


HARDWOODS


SOFTWOODS


COMPOSITE WOOD PRODUCTS



Ø D1 mm	Ø D2 mm	L2 mm	L1 mm	z	Part Ref.	NEW With ring	Standard coating	NEW With ring	Upgraded coating	NEW With ring
1.5	**3***	4	30	1	4022--0150		4022-X0150		4022-NHC0150	
2	**3***	5	30	1	4022--0200		4022-X0200		4022-NHC0200	
2.5	**3***	6	30	1	4022--0250		4022-X0250		4022-NHC0250	
3	3	8	40	1	4022--0300		4022-X0300		4022-NHC0300	
3.17	**6.35***	7.93	50.8	1	4022--0317		4022-X0317		4022-NHC0317	
4	**6***	10	50	1	4022--0400	4022--0400-B	4022-X0400	4022-X0400-B	4022-NHC0400	4022-NHC0400-B
4	4	12	60	1	4022--0400A		4022-X0400A		4022-NHC0400A	
4.76	**6.35***	12.7	50.8	1	4022--0476A		4022-X0476A		4022-NHC0476A	
5	**6***	12	50	1	4022--0500	4022--0500-B	4022-X0500	4022-X0500-B	4022-NHC0500	4022-NHC0500-B
5	5	16	60	1	4022--0500A		4022-X0500A		4022-NHC0500A	
6	6	15	60	1	4022--0600	4022--0600-B	4022-X0600	4022-X0600-B	4022-NHC0600	4022-NHC0600-B
6.35	6.35	15.87	50.8	1	4022--0635		4022-X0635		4022-NHC0635	
8	8	20	60	1	4022--0800		4022-X0800		4022-NHC0800	
10	10	23	60	1	4022--1000		4022-X1000		4022-NHC1000	

***Strengthened shank**

FOR THE 4022 AND 4023 CUTTERS, THE TWO COATED VERSIONS ARE SUITED TO MACHINING WITHOUT LUBRICATION.
THE UPGRADED COATING OFFERS GREATER RESISTANCE TO ABRASION

SINGLE-TOOTH STUB CUTTERS WITH RIGHT-HAND HELIX FOR ALUMINIUM

MATERIALS:

NON-FERROUS METALS

ALUMINIUM-FACED COMPOSITE PANELS

Possible uses:

THERMOSETTING PLASTICS

THERMO-PLASTICS

EXPANDED PVC

HARDWOODS

SOFTWOODS

COMPOSITE WOOD PRODUCTS

RANGE SPECIFICALLY FOR NON-FERROUS METALS (ALUMINIUM, BRASS, COPPER, ETC.)

PARTICULARLY RECOMMENDED FOR DIBOND© TYPE TAC AND ACM

SMOOTH AND POLISHED FLUTE, LIMITED BUILT-UP EDGE EFFECTS

UPCUT TOOL, UPWARDS REMOVAL OF CHIPS. STUB CUTTER SERIES, HIGH RIGIDITY

- Improves surface finishes,
- Longer service life of the tool,
- Improves cutting conditions.

Uncoated cutter, lubrication recommended

Carbide — SOLID CARBIDE

UPCUT TOOL

MILLING / SLOTTING

USE COOLANT

Ø D1 mm	Ø D2 mm	L2 mm	L1 mm	z	Part Ref.	NEW With ring
3	3	4.5	40	1	4001--0300	
3	**6***	4.5	50	1	4001--0300A	4001--0300A-B
4	4	6	50	1	4001--0400	
4	**6***	6	50	1	4001--0400A	4001--0400A-B
5	5	7.5	50	1	4001--0500	
5	**6***	7.5	50	1	4001--0500A	4001--0500A-B
6	6	9	50	1	4001--0600	4001--0600-B
8	8	12	60	1	4001--0800	
10	10	15	65	1	4001--1000	
12	12	18	65	1	4001--1200	

***Strengthened shank**

RANGE SPECIFICALLY FOR NON-FERROUS METALS (ALUMINIUM, BRASS, COPPER, ETC.)

PARTICULARLY RECOMMENDED FOR DIBOND© TYPE TAC AND ACM
SMOOTH AND POLISHED FLUTE, LIMITED BUILT-UP EDGE EFFECTS
UPCUT TOOL, UPWARDS REMOVAL OF CHIPS.
STUB CUTTER SERIES, HIGH RIGIDITY
COATED CUTTER, FOR USE WITHOUT LUBRICATION.

- Improves surface finishes,
- Longer service life of the tool,
- Improves cutting conditions.

SOLID CARBIDE | UPCUT TOOL | MILLING / SLOTTING | COATED TOOL | DRY CUTTING

MATERIALS:

NON-FERROUS METALS

ALUMINIUM-FACED COMPOSITE PANELS

Possible uses:

THERMOSETTING PLASTICS

THERMO-PLASTICS

EXPANDED PVC

HARDWOODS

SOFTWOODS

COMPOSITE WOOD PRODUCTS

Ø D1 mm	Ø D2 mm	L2 mm	L1 mm	z	Part Ref.	NEW With ring	Upgraded coating	NEW With ring
2	**6***	3	50	1	4001-X0200	4001-X0200-B	4001-NHC0200	4001-NHC0200-B
3	3	4.5	40	1	4001-X0300		4001-NHC0300	
3	**6***	4.5	50	1	4001-X0300A	4001-X0300A-B	4001-NHC0300A	4001-NHC0300A-B
4	4	6	50	1	4001-X0400		4001-NHC0400	
4	**6***	6	50	1	4001-X0400A	4001-X0400A-B	4001-NHC0400A	4001-NHC0400A-B
5	5	7.5	50	1	4001-X0500		4001-NHC0500	
5	**6***	7.5	50	1	4001-X0500A	4001-X0500A-B	4001-NHC0500A	4001-NHC0500A-B
6	6	9	50	1	4001-X0600	4001-X0600-B	4001-NHC0600	4001-NHC0600-B
8	8	12	60	1	4001-X0800		4001-NHC0800	
10	10	15	65	1	4001-X1000		4001-NHC1000	
12	12	18	65	1	4001-X1200		4001-NHC1200	

***Strengthened shank**

THE UPGRADED COATING OFFERS GREATER RESISTANCE TO ABRASION.

RANGE SPECIFICALLY FOR NON-FERROUS METALS (ALUMINIUM, BRASS, COPPER, ETC.)

PARTICULARLY RECOMMENDED FOR DIBOND© TYPE TAC AND ACM

SMOOTH AND POLISHED FLUTE, LIMITED BUILT-UP EDGE EFFECTS

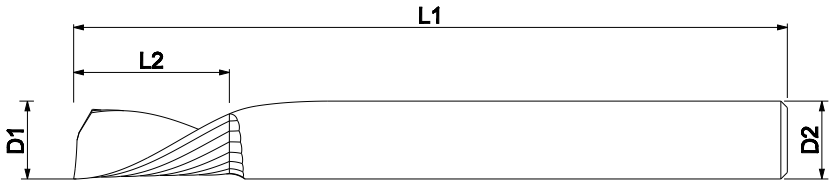
Coated cutter, for use without lubrication.

MATERIALS:

NON-FERROUS METALS

ALUMINIUM-FACED COMPOSITE PANELS

SOLID CARBIDE | DOWNCUT TOOL | MILLING / SLOTTING | COATED TOOL | DRY CUTTING



Ø D1 mm	Ø D2 mm	L2 mm	L1 mm	z	Part Ref.	NEW With ring
2	**3***	3	30	1	4002-X0200	
3	**6***	4.5	50	1	4002-X0300	4002-X0300-B
4	**6***	6	50	1	4002-X0400	4002-X0400-B

***Strengthened shank**

DOWNCUT TOOL, DOWNWARDS REMOVAL OF CHIPS

Workpieces held better due to the downwards force.

- Limits the delamination of the upper face.
- Suited to thin materials.

STUB CUTTER SERIES, HIGH RIGIDITY

- Improves surface finishes.
- Improves service life.
- Improves cutting conditions.

SINGLE-TOOTH CUTTERS WITH CHAMFER FOR PLASTICS

MATERIALS:


THERMOSETTING PLASTICS


THERMO-PLASTICS


EXPANDED PVC


HARDWOODS


SOFTWOODS


COMPOSITE WOOD PRODUCTS

Possible uses:


COMPACT LAMINATES

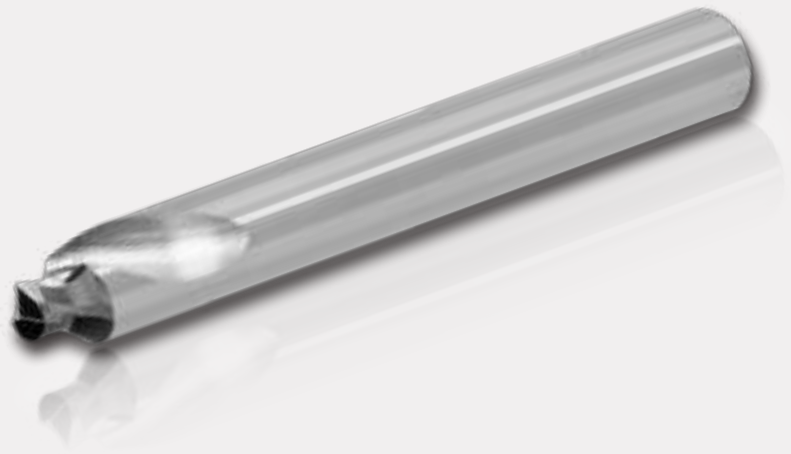

NON-FERROUS METALS

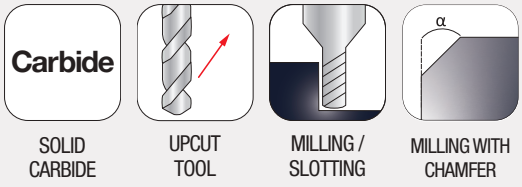

ALUMINIUM-FACED COMPOSITE PANELS

RANGE SPECIFICALLY FOR PLASTICS

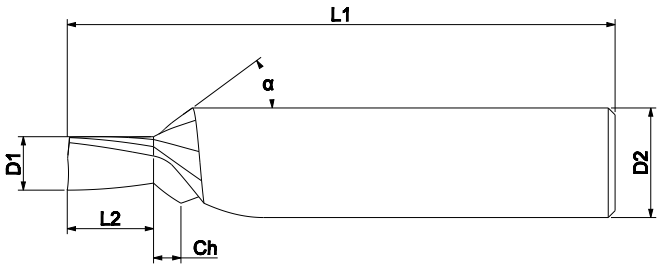
CUTS OUT AND CHAMFERS THE MATERIAL AS A SINGLE OPERATION

CAUTION: Ensure that the material is flat!





SOLID CARBIDE | UPCUT TOOL | MILLING / SLOTTING | MILLING WITH CHAMFER



Ø D1 mm	Ø D2 mm	L2 mm	L1 mm	Ch mm	α °	z	Part Ref.
4	**8***	4.3	60	2	45°	1	4202--0400A
4	**8***	6.3	60	2	45°	1	4202--0400B

***Strengthened shank**

RANGE SPECIFICALLY FOR NON-FERROUS METALS (ALUMINIUM, BRASS, COPPER, ETC.). ALSO RECOMMENDED FOR DIBOND© TYPE TAC AND ACM

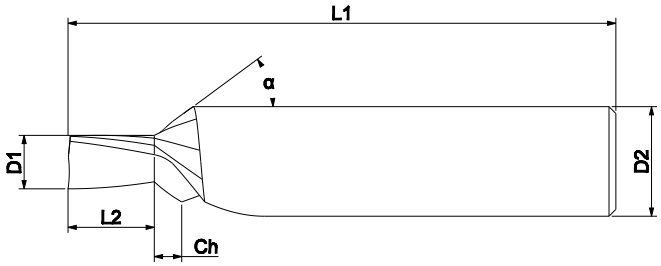
CUTS OUT AND CHAMFERS THE MATERIAL AS A SINGLE OPERATION.

CAUTION: ensure that the material is flat!

Uncoated cutter; lubrication is strongly recommended when used on aluminium.

Coating on demand.

SOLID CARBIDE | UPCUT TOOL | MILLING / SLOTTING | MILLING WITH CHAMFER | USE COOLANT



Ø D1 mm	Ø D2 mm	L2 mm	L1 mm	Ch mm	α °	z	Part Ref.	NEW With ring
4	**6***	1.9	50	1	45°	1	4203--0400A	4203--0400A-B
4	**6***	2.3	50	1	45°	1	4203--0400B	4203--0400B-B
4	**6***	2.9	50	1	45°	1	4203--0400C	4203--0400C-B
4	**6***	3.3	50	1	45°	1	4203--0400D	4203--0400D-B

***Strengthened shank**

MATERIALS:


NON-FERROUS METALS


ALUMINIUM-FACED COMPOSITE PANELS

Possible uses:


THERMOSETTING PLASTICS


THERMO-PLASTICS


EXPANDED PVC


HARDWOODS


SOFTWOODS


COMPOSITE WOOD PRODUCTS


COMPACT LAMINATES

TWO-TOOTH CUTTERS WITH RIGHT-HAND HELIX

MATERIALS:

EXPANDED PVC

HARDWOODS

SOFTWOODS

COMPOSITE WOOD PRODUCTS

FOAMED MATERIALS

Possible uses:

THERMOSETTING PLASTICS

THERMO-PLASTICS

CUTTERS DERIVED FROM THE 4013 BUT WITH TWO TEETH

SMOOTH AND POLISHED FLUTE, LIMITED BUILT-UP EDGE EFFECTS

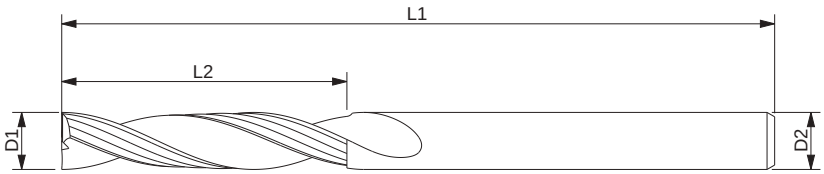
Improves the surface finish when used on foamed materials and woods compared with a single-tooth cutter.

UPCUT TOOL, UPWARDS REMOVAL OF CHIPS.

SOLID CARBIDE

UPCUT TOOL

MILLING / SLOTTING



Ø D1 mm	Ø D2 mm	L2 mm	L1 mm	z	Part Ref.	NEW With ring
3	3	10	40	2	4015--0300	
3	**6***	10	50	2	4015--0300A	4015--0300A-B
4	4	12	60	2	4015--0400	
4	**6***	12	50	2	4015--0400A	4015--0400A-B
5	5	20	70	2	4015--0500	
6	6	22	80	2	4015--0600	4015--0600-B
8	8	22	80	2	4015--0800	
8	8	32	80	2	4015--0800A	
10	10	32	75	2	4015--1000	
10	10	42	85	2	4015--1000A	
12	12	35	84	2	4015--1200	

***Strengthened shank**

CUTTERS DERIVED FROM THE 4012 BUT WITH TWO TEETH

SMOOTH AND POLISHED FLUTE, LIMITED BUILT-UP EDGE EFFECTS

Improves the surface finish when used on foamed materials and woods compared with a single-tooth cutter.

DOWNCUT TOOL, DOWNWARDS REMOVAL OF CHIPS

Workpieces held better due to the downwards force.

- Limits the delamination of the upper face.
- Suited to thin materials.

SOLID CARBIDE | DOWNCUT TOOL | MILLING / SLOTTING

MATERIALS:


EXPANDED PVC


HARDWOODS


SOFTWOODS

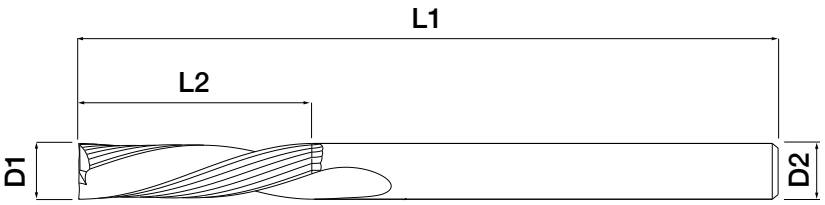

COMPOSITE WOOD PRODUCTS


FOAMED MATERIALS

Possible uses:


THERMOSETTING PLASTICS


THERMO-PLASTICS



Ø D1 mm	Ø D2 mm	L2 mm	L1 mm	z	Part Ref.	NEW With ring
3	3	10	40	2	4014--0300	
3	**6***	10	50	2	4014--0300A	4014--0300A-B
4	4	12	60	2	4014--0400	
4	**6***	12	50	2	4014--0400A	4014--0400A-B
5	5	16	60	2	4014--0500	
6	6	22	60	2	4014--0600	4014--0600-B
8	8	25	80	2	4014--0800	

***Strengthened shank**

STRAIGHT, TWO-TOOTH CUTTERS

MATERIALS:

EXPANDED PVC

HARDWOODS

SOFTWOODS

COMPOSITE WOOD PRODUCTS

Possible uses:

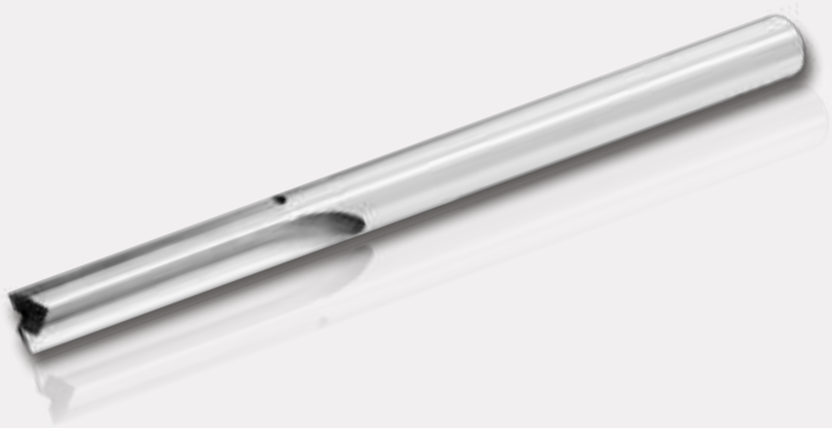
THERMOSETTING PLASTICS

STRAIGHT-FLUTED CUTTERS

NO CHIP REMOVAL DIRECTION.

Used mainly for wood.

This cutter may also be used to produce a finished surface on certain thermoplastics, with a final cut of a few hundredths of a millimetre.

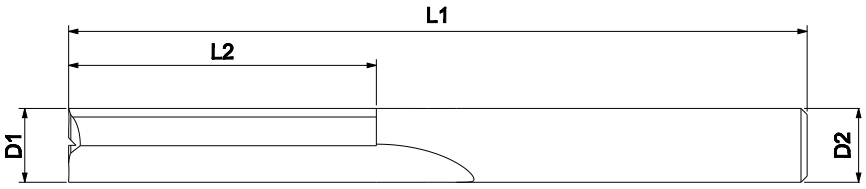


Carbide

SOLID CARBIDE

STRAIGHT CUT

MILLING / SLOTTING



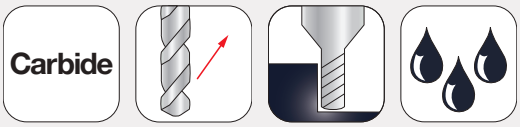
Ø D1 mm	Ø D2 mm	L2 mm	L1 mm	z	Part Ref.	NEW With ring
3	3	15	60	2	4120--0300	
4	4	20	60	2	4120--0400	
5	5	20	60	2	4120--0500	
6	6	25	60	2	4120--0600	4120--0600-B
8	8	35	80	2	4120--0800	

***Strengthened shank**

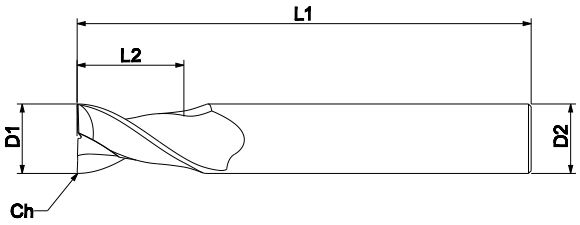
TWO-TOOTH CUTTERS FOR NON-FERROUS METALS WITH A SMALL PROTECTIVE CHAMFER

SMOOTH AND POLISHED FLUTE, LIMITED BUILT-UP EDGE EFFECTS

Cuts slots in certain plastics, resins, compact laminates and Corian®.
Improves surface finishes at the bottom of a pocket.
Coating on demand.



SOLID CARBIDE | UPCUT TOOL | MILLING / SLOTTING | USE COOLANT



Ø D1 mm	Ø D2 mm	L2 mm	L1 mm	Ch 45° mm	z	Part Ref.	NEW With ring
2	**6***	6	50	0.1	2	4003--0200	4003--0200-B
3	**6***	7	50	0.1	2	4003--0300	4003--0300-B
4	**6***	8	50	0.1	2	4003--0400	4003--0400-B
5	**6***	10	50	0.2	2	4003--0500	4003--0500-B
6	6	10	50	0.2	2	4003--0600	4003--0600-B
8	8	15	60	0.2	2	4003--0800	
10	10	18	60	0.25	2	4003--1000	

*** Strengthened shank**

MATERIALS:

NON-FERROUS METALS

Possible uses:

THERMOSETTING PLASTICS

THERMO-PLASTICS

HARDWOODS

COMPACT LAMINATES

TWO-TOOTH CUTTERS FOR STEEL

MATERIALS:

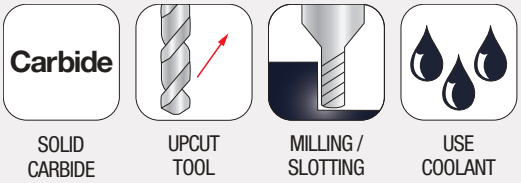

STEEL


STAINLESS STEEL

TWO-TOOTH CUTTERS FOR MACHINING METALS

UNCOATED VERSION

COATED VERSION EXTENDS THE SERVICE LIFE

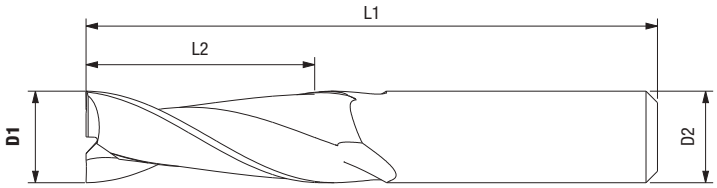


SOLID CARBIDE

UPCUT TOOL

MILLING / SLOTTING

USE COOLANT



Ø D1 mm	Ø D2 mm	L2 mm	L1 mm	Z	Part Ref.	TIALNX coated
1	1	4	35	2	2350--0100	2350-X0100
1.5	1.5	4	35	2	2350--0150	2350-X0150
2	2	8	35	2	2350--0200	2350-X0200
2.5	2.5	8	38	2	2350--0250	2350-X0250
3	3	8	38	2	2350--0300	2350-X0300
3.5	3.5	10	43	2	2350--0350	2350-X0350
4	4	11	43	2	2350--0400	2350-X0400
4.5	4.5	13	47	2	2350--0450	2350-X0450
5	5	13	47	2	2350--0500	2350-X0500
5.5	5.5	13	57	2	2350--0550	2350-X0550
6	6	13	57	2	2350--0600	2350-X0600
6.5	6.5	16	63	2	2350--0650	2350-X0650
7	7	16	63	2	2350--0700	2350-X0700
8	8	19	63	2	2350--0800	2350-X0800
9	9	19	72	2	2350--0900	2350-X0900
10	10	22	72	2	2350--1000	2350-X1000
12	12	22	76	2	2350--1200	2350-X1200
14	14	26	83	2	2350--1400	2350-X1400
16	16	32	89	2	2350--1600	2350-X1600
18	18	32	92	2	2350--1800	2350-X1800
20	20	38	101	2	2350--2000	2350-X2000

COATED, THREE-TOOTH CUTTERS FOR MACHINING METALS

PARTICULARLY SUITED TO THE MACHINING OF STEEL-FACED COMPOSITE PANELS (SUCH AS STEELBOND© OR KÖMASTEEL©).

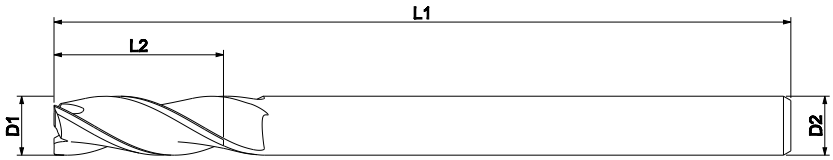
MATERIALS:


STEEL-FACED COMPOSITE PANELS


STEEL


STAINLESS STEEL

SOLID CARBIDE | UPCUT TOOL | MILLING / SLOTTING | COATED TOOL | USE COOLANT



Ø D1 mm	Ø D2 mm	L2 mm	L1 mm	Z	Part Ref.
1	1	4	35	3	2352-X0100
1.5	1.5	4	35	3	2352-X0150
2	2	8	35	3	2352-X0200
2.5	2.5	8	38	3	2352-X0250
3	3	8	38	3	2352-X0300
3.5	**4***	10	43	3	2352-X0350
4	4	11	43	3	2352-X0400
4.5	**5***	13	47	3	2352-X0450
5	5	13	47	3	2352-X0500
5.5	**6***	13	57	3	2352-X0550
6	6	13	57	3	2352-X0600
6.5	**8***	16	63	3	2352-X0650
7	**8***	16	63	3	2352-X0700
8	8	19	63	3	2352-X0800
9	**10***	19	72	3	2352-X0900
10	10	22	72	3	2352-X1000
12	12	22	76	3	2352-X1200
14	14	26	83	3	2352-X1400
16	16	32	89	3	2352-X1600
18	18	32	92	3	2352-X1800
20	20	38	101	3	2352-X2000

***Strengthened shank**

THREE-TOOTH CUTTERS FOR HIGH-PRESSURE LAMINATES (HPL)

MATERIALS:


COMPACT LAMINATES


PHENOLIC MATERIALS

Possible uses:


HARDWOODS


SOFTWOODS


COMPOSITE WOOD PRODUCTS

RANGE SPECIFICALLY FOR HPL (TRESPA©, FUNDERMAX©)

UPCUT TOOL, UPWARDS REMOVAL OF CHIPS

Chip breaker to improve ventilation and reduce heating.

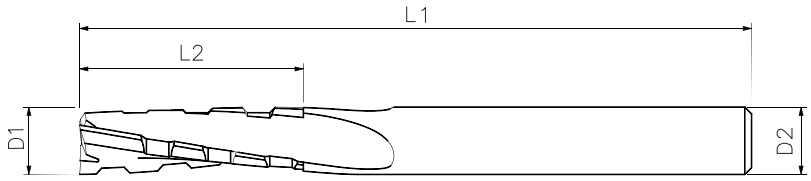
Coating on demand.

The use of a coating extends the service life (consult us for details).

SOLID CARBIDE

UPCUT TOOL

MILLING / SLOTTING



Ø D1 mm	Ø D2 mm	L2 mm	L1 mm	z	Part Ref.	NEW With ring
6	6	15	58	3	4050--0600	4050--0600-B
8	8	12	64	3	4050--0800	
8	8	20	64	3	4050--0800A	
10	10	22	73	3	4050--1000	
12	12	32	80	3	4050--1200	

NEW

FIND OUR PRODUCTS ONLINE

SHOP.DIAGER-INDUSTRIE.COM

RANGE SPECIFICALLY FOR FOAMED MATERIALS AND WOOD

SMOOTH AND POLISHED FLUTE, LIMITED BUILT-UP EDGE EFFECTS

Upcut tool, upwards removal of chips.

SOLID CARBIDE | UPCUT TOOL | MILLING / SLOTTING

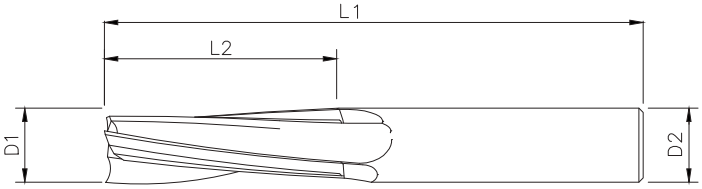
MATERIALS:

FOAMED MATERIALS

HARDWOODS

SOFTWOODS

COMPOSITE WOOD PRODUCTS



Ø D1 mm	Ø D2 mm	L2 mm	L1 mm	z	Part Ref.	NEW With ring
6	6	25	80	3	4060--0600	4060--0600-B
8	8	25	80	3	4060--0800	
10	10	35	85	3	4060--1000	
12	12	45	100	3	4060--1200	

LONG THREE-TOOTH CUTTERS FOR FOAMED MATERIALS

MATERIALS:

FOAMED MATERIALS

EXPANDED PVC

SPECIAL LONG RANGE FOR FOAMED MATERIALS

SMOOTH AND POLISHED FLUTE, LIMITED BUILT-UP EDGE EFFECTS.

Upcut tool, upwards removal of chips

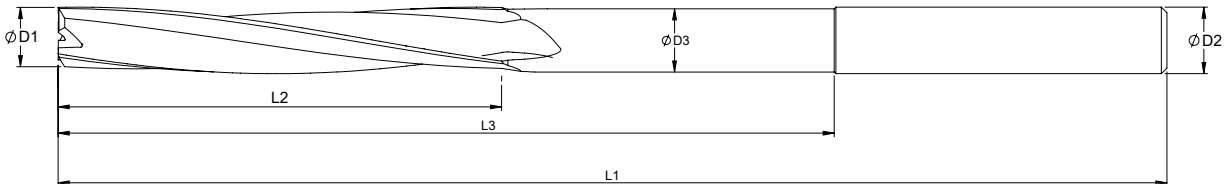
NEW

Carbide

SOLID CARBIDE

UPCUT TOOL

MILLING / SLOTTING



Ø D1 mm	Ø D2 mm	Ø D3 mm	L2 mm	L3 mm	L1 mm	z	Part Ref.
3	3	2.7	20	40	75	3	4061--0300
4	4	3.7	30	45	75	3	4061--0400
5	5	4.7	25	45	78	3	4061--0500
6	6	5.7	50		80	3	4061--0600
6	6	5.7	40	70	100	3	4061--0600A
8	8	7.6	40	70	100	3	4061--0800
8	8		50		80	3	4061--0800A
8	8	7.6	40	115	150	3	4061--0800B
10	10	9.6	40	70	100	3	4061--1000
10	10	9.6	50	85	120	3	4061--1000A
10	10	9.6	50	115	150	3	4061--1000B
12	12	11.6	50	85	120	3	4061--1200


FANUC Robot
LR Mate 200iD

WOODSPEED COATED COMPRESSION CUTTERS

MATERIALS:


HARDWOODS


SOFTWOODS


COMPOSITE WOOD PRODUCTS

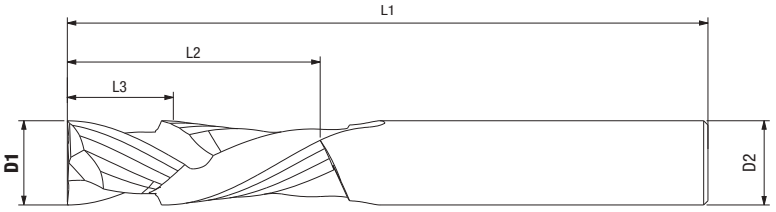
COMPRESSION CUTTERS FOR THE CONTOUR MILLING OF WOODEN BOARDS

THE DOUBLE-HELIX CONFIGURATION - PRODUCING AN UPCUT AT THE TIP AND THEN A DOWNCUT - PREVENTS DELAMINATION OF THE TWO FACES OF THE MATERIAL

The cutting geometry allows high-speed machining and a perfect surface finish.

Long service life thanks to the specific carbide used and the coating.

SOLID CARBIDE | COMPRESSION | MILLING / SLOTTING | COATED TOOL



Ø D1 mm	Ø D2 mm	L2 mm	L3 mm	L1 mm	z	Part Ref.	NEW With ring
6	6	14	4	60	1+1	4030--0600	4030--0600-B
6	6	22	4	60	1+1	4030--0600A	4030--0600A-B
8	8	22	4	70	2+2	4030--0800	
10	10	22	4	80	2+2	4030--1000	
10	10	32	4	80	2+2	4030--1000A	
12	12	32	8	80	2+2	4030--1200	
12	12	42	12	100	2+2	4030--1200A	

GEOMETRY SPECIALLY DESIGNED TO SHEAR FIBRES (KEVLAR / ARAMIDE, ETC.)

ALSO PERFECTLY SUITED TO THIN PLYWOOD

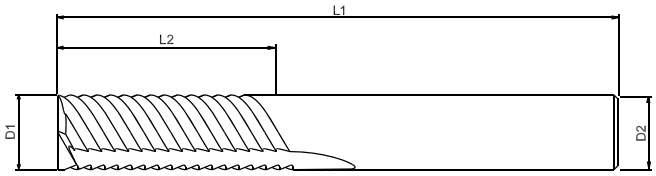
MATERIALS:

KEVLAR

Possible uses:

COMPOSITE WOOD PRODUCTS

SOLID CARBIDE | COMPRESSION | MILLING / SLOTTING



Ø D1 mm	Ø D2 mm	L2 mm	L1 mm	z	Part Ref.	NEW With ring
3	3	12	60	2	4100--0300	
3	**6***	12	60	2	4100--0300A	4100--0300A-B
4	4	15	60	2	4100--0400	
4	**6***	15	60	2	4100--0400A	4100--0400A-B
6	6	25	75	2	4100--0600	4100--0600-B
8	8	25	75	2	4100--0800	
10	10	25	75	2	4100--1000	
12	12	25	75	2	4100--1200	

***Strengthened shank**

SPHERICAL, TWO-TOOTH CUTTERS

MATERIALS:

THERMOSETTING PLASTICS

THERMO-PLASTICS

HARDWOODS

SOFTWOODS

COMPOSITE WOOD PRODUCTS

COMPACT LAMINATES

Possible uses:

NON-FERROUS METALS

STEEL-FACED COMPOSITE PANELS

STEEL

STAINLESS STEEL

PHENOLIC MATERIALS

FOAMED MATERIALS

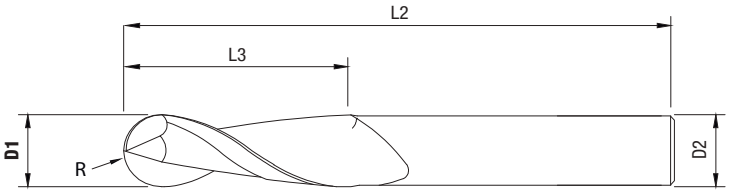
FORM MILLING AND 3D MACHINING.

Carbide

SOLID CARBIDE

MILLING / SLOTTING

FORM MILLING



D1 mm	D2 mm	L2 mm	L1 mm	R mm	Z	Part Ref.
2	2	8	35	1	2	2344--0200
2.5	2.5	8	38	1.25	2	2344--0250
3	3	8	38	1.5	2	2344--0300
4	4	11	43	2	2	2344--0400
5	5	13	47	2.5	2	2344--0500
6	6	13	57	3	2	2344--0600
7	7	16	63	3.5	2	2344--0700
8	8	19	63	4	2	2344--0800
9	9	19	72	4.5	2	2344--0900
10	10	22	72	5	2	2344--1000
12	12	22	76	6	2	2344--1200
14	14	26	83	7	2	2344--1400
16	16	32	83	8	2	2344--1600

HIGH-SPEED CUTTER FOR SLOT CUTTING - FOLDING

SPECIALLY DESIGNED FOR ACM AND TAC (DIBOND©, ALUCOBOND©)

Very good surface finish
Improves the evacuation of chips.
High working speed

UPCUT TOOL, UPWARDS REMOVAL OF CHIPS

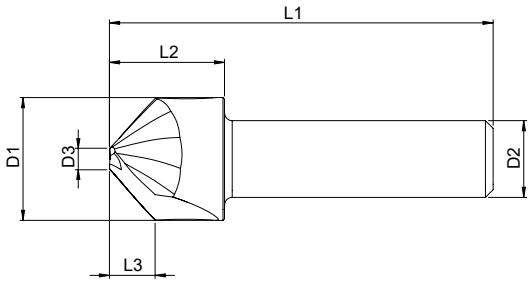
Coating on demand.

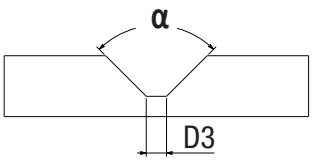
NEW

SOLID CARBIDE | MILLING / SLOTTING | MILLING WITH CHAMFER

MATERIALS:

ALUMINIUM-FACED COMPOSITE PANELS





Ø D1 mm	Ø D2 mm	Ø D3 mm	L3 mm	L2 mm	L1 mm	α °	z	Part Ref.
12	12	2	4.7	-	60	95°	2	4045--12-095°
16	**10**	3	6.1	15	50	95°	2	4045--16-095°
20	**10**	2	5.2	20	50	108°	2	4045--20-108°
20	**10**	2	3.7	20	50	135°	2	4045--20-135°

CONICAL, ONE-TOOTH CUTTERS FOR SLOT CUTTING - FOLDING

MATERIALS:

ALUMINIUM-FACED COMPOSITE PANELS

Possible uses:

NON-FERROUS METALS

COMPACT LAMINATES

CUTTERS FOR CUTTING SLOTS - FOLDING

SPECIALLY DESIGNED FOR ACM AND TAC (DIBOND©, ALUCOBOND©)

Very good surface finish.

Improves the evacuation of chips.

SMOOTH AND POLISHED FLUTE, LIMITED BUILT-UP EDGE EFFECTS

UPCUT TOOL, UPWARDS REMOVAL OF CHIPS.

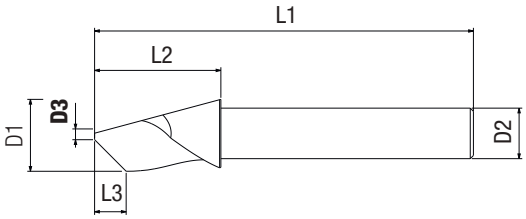
Coating on demand.

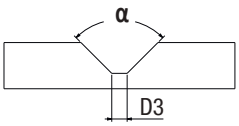
Machining of non-ferrous metals with spraying or coating

SOLID CARBIDE

MILLING / SLOTTING

MILLING WITH CHAMFER





Ø D1 mm	Ø D2 mm	Ø D3 mm	L3 mm	L2 mm	L1 mm	α °	z	Part Ref.	NEW With ring
6	6	0.3	2.3	-	60	100°	1	4041--06P0030-100°	4041--06P0030-100°-B
8	8	0.5	3.1	-	60	100°	1	4041--08P0050-100°	
10	**6***	2	3.6	20	60	95°	1	4041--10P0200-095°	4041--10P0200-095°-B

***Smaller shank diameter**

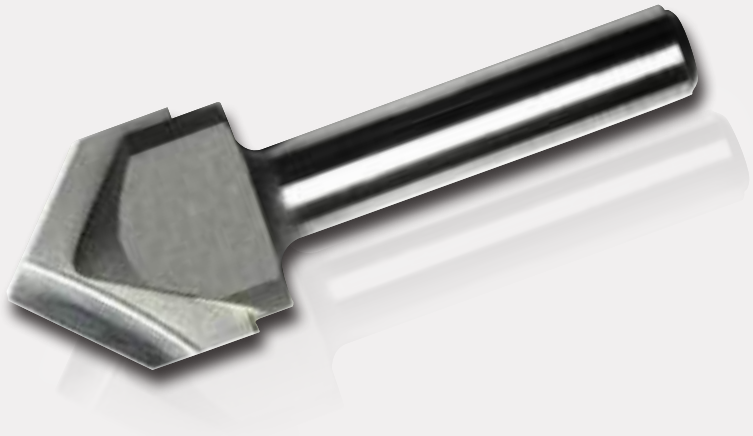
CUTTERS FOR CUTTING SLOTS - FOLDING

SPECIALLY DESIGNED FOR ACM AND TAC (DIBOND©, ALUCOBOND©)

Coating on demand.

MATERIALS:

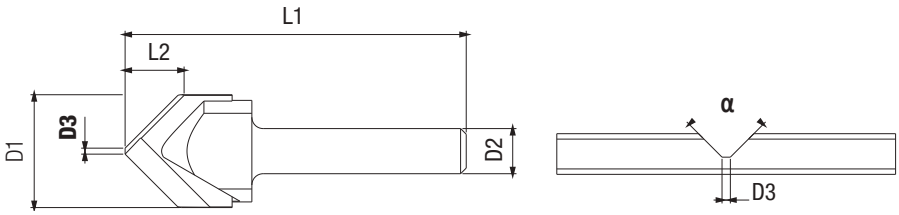
ALUMINIUM-FACED COMPOSITE PANELS



CARBIDE TIPPED STEEL BODY

MILLING / SLOTTING

MILLING WITH CHAMFER



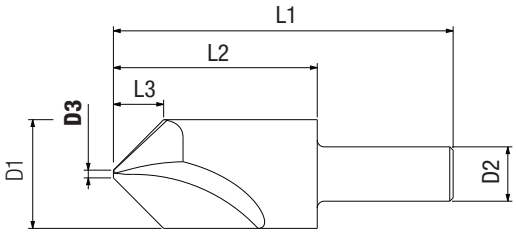
Ø D1 mm	Ø D2 mm	Ø D3 mm	L2 mm	L1 mm	α °	z	Part Ref.
20	8	3	8.5	60	90°	2	4040--090°
20	8	2	3.7	60	135°	2	4040--135°

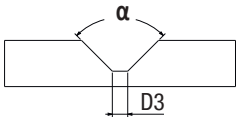

CUT
17.0070
DIA
17.0057
MAX
17.0054
NOUT
0.0013
POS
-44.785
XACTUM

VERY GOOD SURFACE FINISH

SOLID CARBIDE TOOL, HIGH RIGIDITY

SOLID CARBIDE | MILLING / SLOTTING | MILLING WITH CHAMFER





Ø D1 mm	Ø D2 mm	Ø D3 mm	L3 mm	L2 mm	L1 mm	α °	z	Part Ref.
8	8	0.2	3.9	-	50	90°	2	4044--08P0020-090°
10	**6***	0.2	4.9	25	50	90°	2	4044--10P0020-090°
12	12	0.2	5.9	-	50	90°	2	4044--12P0020-090°
16	**8***	0.2	7.9	12	50	90°	2	4044--16P0020-090°

***Smaller shank diameter**

MATERIALS:


THERMOSETTING PLASTICS


THERMO-PLASTICS


EXPANDED PVC


HARDWOODS


SOFTWOODS


COMPOSITE WOOD PRODUCTS


COMPACT LAMINATES


PHENOLIC MATERIALS

Possible uses:


ALUMINIUM-FACED COMPOSITE PANELS

CUTTERS FOR SLOT CUTTING - CHAMFERING

MATERIALS:


THERMOSETTING PLASTICS


EXPANDED PVC


HARDWOODS


COMPOSITE WOOD PRODUCTS


COMPACT LAMINATES

Possible uses:


THERMO-PLASTICS

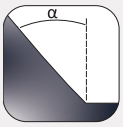

SOFTWOODS


FOAMED MATERIALS

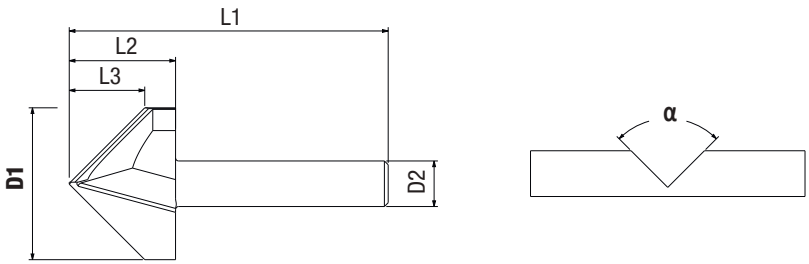
SPECIFICALLY DESIGNED FOR HARDER MATERIALS (PMMA, CORIAN, POLYCARBONATES, HARDWOODS, ETC.)

CARBIDE TIPPED STEEL BODY


MILLING / SLOTTING

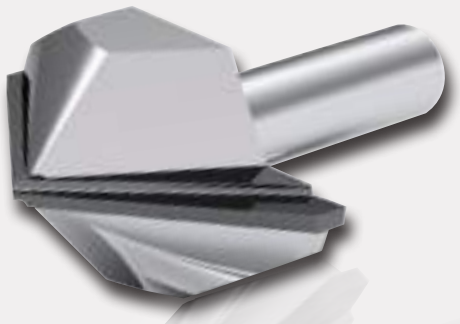


MILLING WITH CHAMFER



Ø D1 mm	Ø D2 mm	L3 mm	L2 mm	L1 mm	α °	z	Part Ref.
20	6	17.3	20.5	48	60°	2	4042--20-060°
20	6	10	14	42	90°	2	4042--20-090°
20	6	5.8	9.8	38	120°	2	4042--20-120°

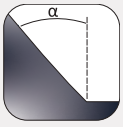
SPECIFICALLY DESIGNED FOR SOFT MATERIALS (SOFTWOODS, COMPOSITE WOOD PRODUCTS, FOAMED MATERIALS, ETC.)



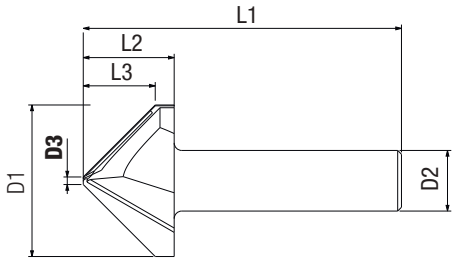
Carbide Steel

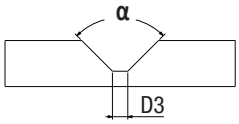
CARBIDE TIPPED STEEL BODY

MILLING / SLOTTING



MILLING WITH CHAMFER





Ø D1 mm	Ø D2 mm	Ø D3 mm	L3 mm	L2 mm	L1 mm	α °	z	Part Ref.
32	8	0.5	27.3	32	62	60°	2	4043--32P0050-060°
32	8	0.5	15.75	20	50	90°	2	4043--32P0050-090°
32	8	0.5	9.1	12	42	120°	2	4043--32P0050-120°

MATERIALS:

THERMOSETTING PLASTICS

EXPANDED PVC

SOFTWOODS

COMPOSITE WOOD PRODUCTS

COMPACT LAMINATES

FOAMED MATERIALS

Possible uses:

THERMO-PLASTICS

HARDWOODS

CONICAL ENGRAVING CUTTERS

MATERIALS:


THERMOSETTING PLASTICS


THERMO-PLASTICS


EXPANDED PVC


HARDWOODS


SOFTWOODS


COMPACT LAMINATES


NON-FERROUS METALS


ALUMINIUM-FACED COMPOSITE PANELS

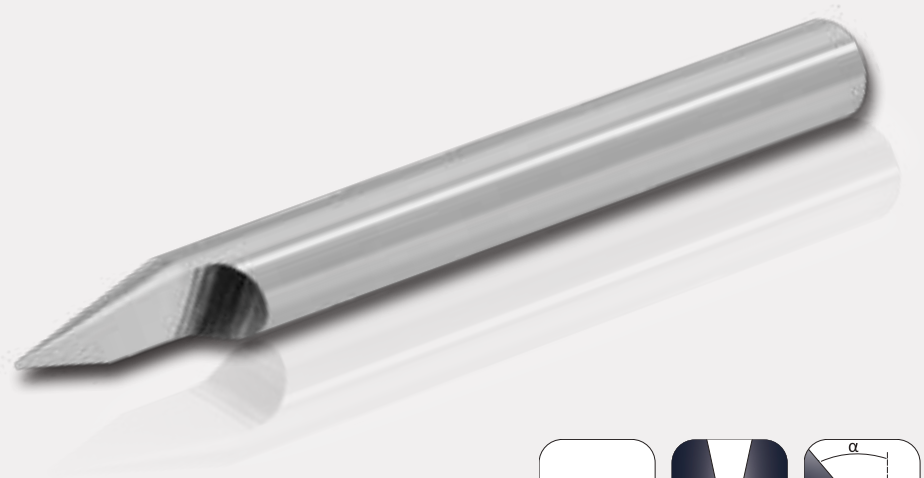

STEEL-FACED COMPOSITE PANELS

Possible uses:

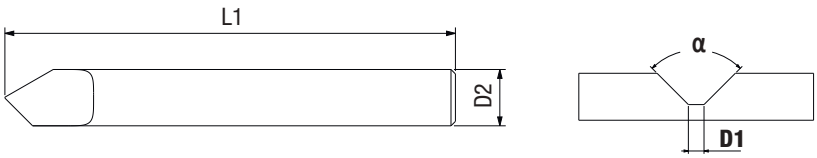

PHENOLIC MATERIALS


GLASS-FILLED PLASTICS

CONICAL, MULTI-MATERIAL ENGRAVING CUTTERS



SOLID CARBIDE | ENGRAVING | MILLING WITH CHAMFER

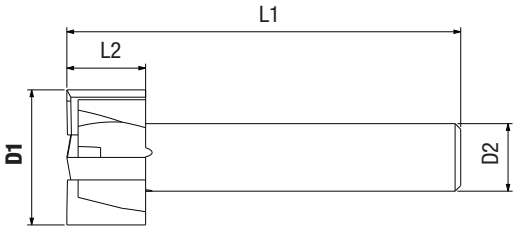


ØD1 mm	Ø D2 mm	L1 mm	α °	Z	Part Ref.	NEW With ring	
0.3	3	30	30°	1	4070--03P0030-030°		
0.1	4	60	30°	1	4070--04P0010-030°		NEW
0.3	4	60	30°	1	4070--04P0030-030°		
0.1	6	60	30°	1	4070--06P0010-030°	4070--06P0010-030°-B	NEW
0.5	6	60	30°	1	4070--06P0050-030°	4070--06P0050-030°-B	
0.1	3	30	40°	1	4070--03P0010-040°		NEW
0.3	3	30	40°	1	4070--03P0030-040°		
0.3	4	60	40°	1	4070--04P0030-040°		
0.5	6	60	40°	1	4070--06P0050-040°	4070--06P0050-040°-B	
0.1	3	30	60°	1	4070--03P0010-060°		
0.2	4	60	60°	1	4070--04P0020-060°		
0.4	6	60	60°	1	4070--06P0040-060°	4070--06P0040-060°-B	
0.1	4	60	90°	1	4070--04P0010-090°		
0.1	6	60	90°	1	4070--06P0010-090°	4070--06P0010-090°-B	

FACE MILLING CUTTERS
(FACE MILLING ON SACRIFICIAL PANELS, ETC.)

Carbide Steel
CARBIDE TIPPED STEEL BODY


MILLING / SLOTTING



Ø D1 mm	Ø D2 mm	L2 mm	L1 mm	z	Part Ref.
20	6	7	35	4	4080--2000
30	8	8	35	6	4080--3000

MATERIALS:


THERMOSETTING PLASTICS


THERMO-PLASTICS


EXPANDED PVC


HARDWOODS


SOFTWOODS


COMPOSITE WOOD PRODUCTS


COMPACT LAMINATES

Possible uses:


FOAMED MATERIALS


PHENOLIC MATERIALS


GLASS-FILLED PLASTICS

SLITTING SAW CUTTERS ON A SHANK

MATERIALS:

- THERMOSETTING PLASTICS
- THERMO-PLASTICS
- EXPANDED PVC
- HARDWOODS
- SOFTWOODS
- COMPOSITE WOOD PRODUCTS
- COMPACT LAMINATES

Possible uses:

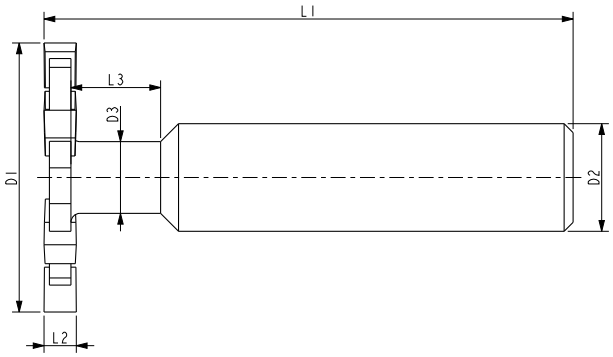
- NON-FERROUS METALS
- FOAMED MATERIALS
- GLASS-FILLED PLASTICS

SLITTING SAW CUTTERS WITH CARBIDE INSERTS ON A STEEL SHANK

MACHINING OF SLOTS AND SLITS

Cutting out thermoformed parts

MILLING / SLOTTING

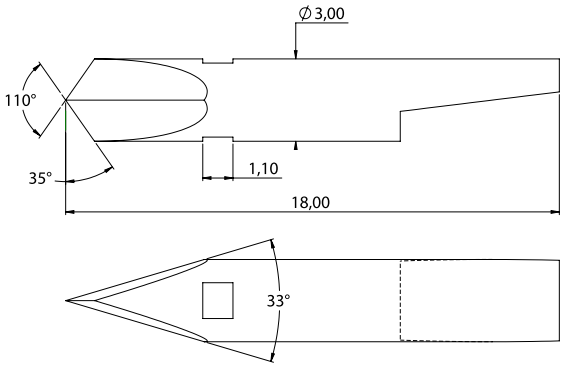
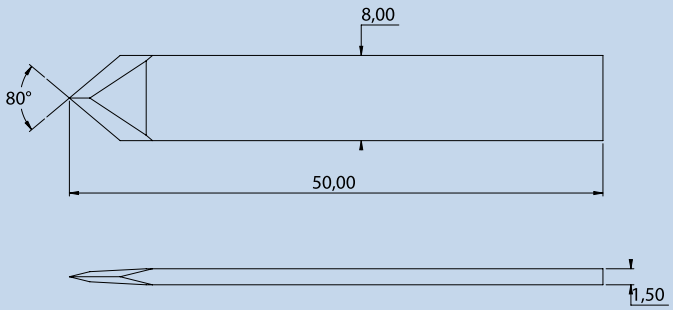
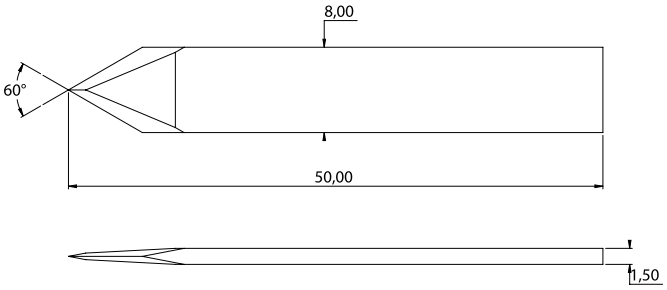
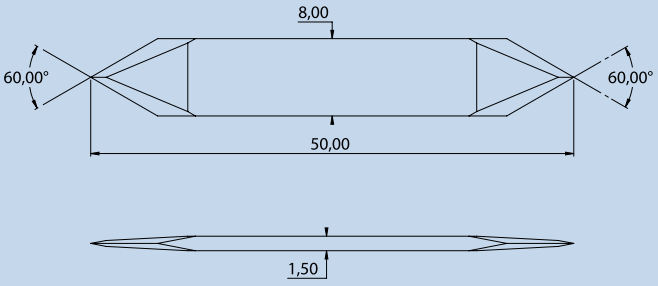


ØD1	Ø D2	L2	L1	Z	Part Ref.
25	8	1	62	6	4110--25-0100A
25	6	2	62	6	4110--25-0200
25	8	2	62	6	4110--25-0200A
35	6	2	62	8	4110--35-0200
50	10	3	62	8	4110--50-0300

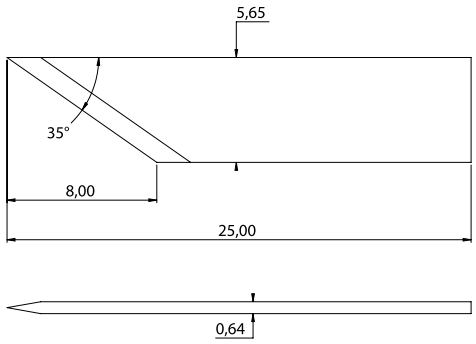
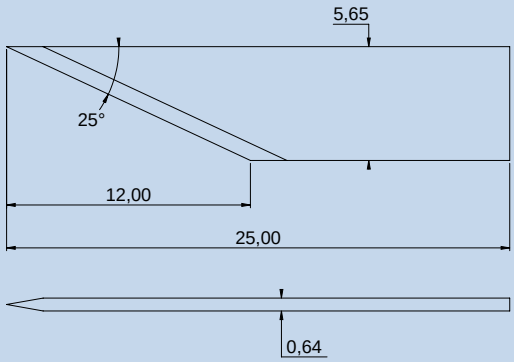
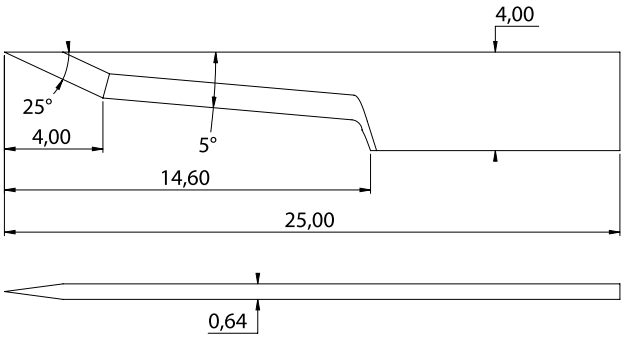
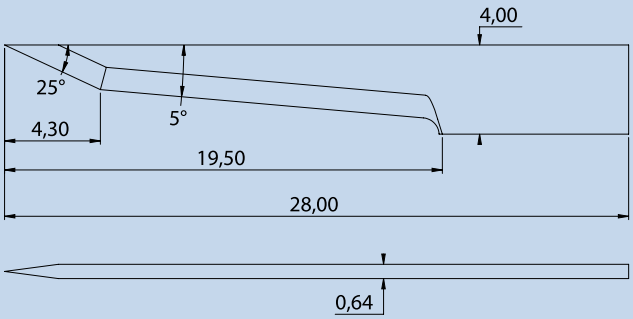
NEW

KNIFE BLADES
SOLID CARBIDE

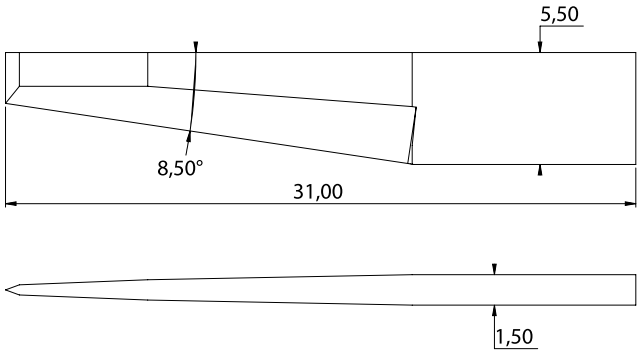
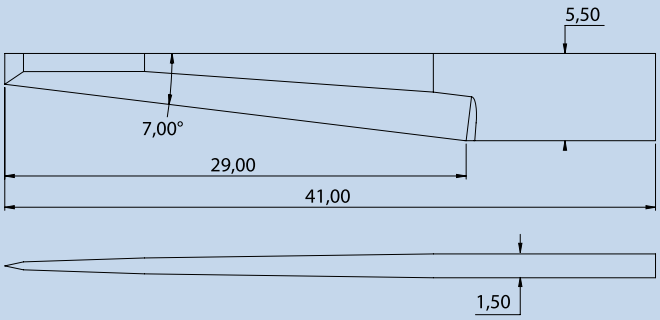
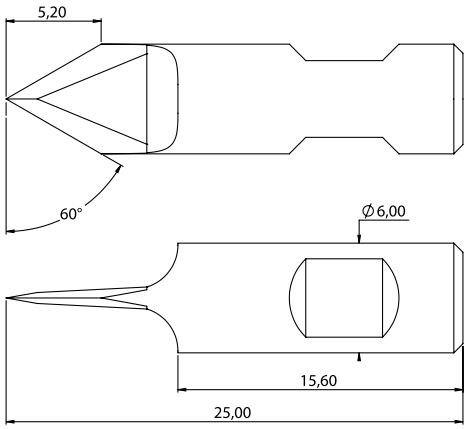
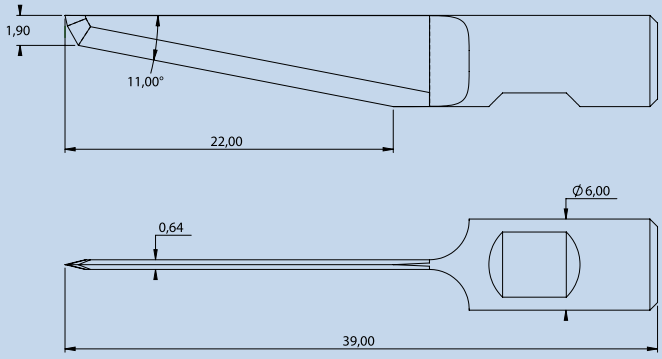
NEW

DIAGER reference	Machine compatibility	Manufacturer reference
 **31385**	Zünd	Z3 (3910115)
	ESKO Kongsberg	BLD-KC103 (42458323)
 **31394**	Zünd	Z10 (3910301)
 **31382**	Zünd	Z11 (3910309)
 **31335**	Zünd	Z13 = Z11 x2
	ESKO Kongsberg	BLD-DF213 (42441204)
	iEcho	E13

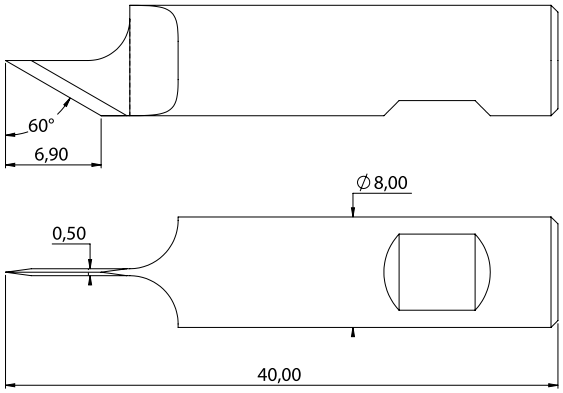
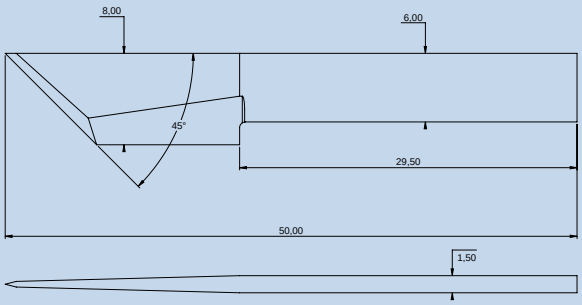
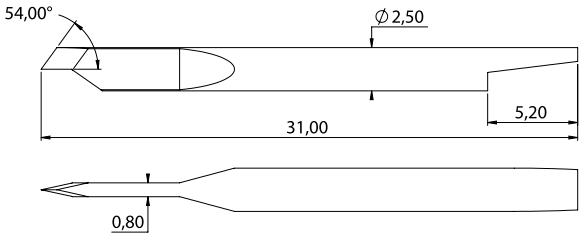
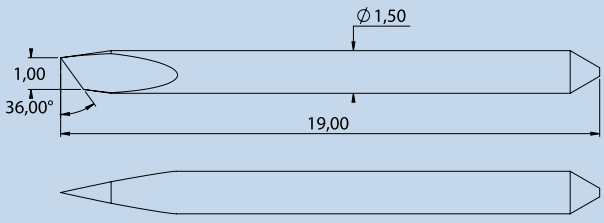
NEW

	DIAGER reference	Machine compatibility	Manufacturer reference
	**31555**	Zünd	Z16 (3910306)
		ESKO Kongsberg	BLD-SF216 (42441212)
		iEcho	E16
	**31531**	Zünd	Z17 (3910307)
		ESKO Kongsberg	BLD-SF217 (G42441220)
		iEcho	E17
	**31505**	Zünd	Z20 (3910313)
		ESKO Kongsberg	BLD-SF420 (G42421974)
		Summa	500-9811, 500-0811
	**31506**	Zünd	Z21 (3910314)
		ESKO Kongsberg	BLD-SF421 (G42458257), 42458257
		iEcho	E21
		Summa	500-9812, 500-0812

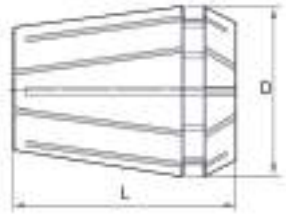
NEW

DIAGER reference	Machine compatibility	Manufacturer reference
 **31419**	Zünd	Z61 (5201343)
	iEcho	E61
 **31567**	Zünd	Z68 (5204301)
 **31562**	ESKO Kongsberg	BLD-DR6160 (42445510)
	Mécanumériс	100610660
	AXYZ	B1051L-5
 **31452**	ESKO Kongsberg	BLD-SR6310 (42441626)

NEW

DIAGER reference	Machine compatibility	Manufacturer reference
		
31435	ESKO Kongsberg	BLD-SR8170 (G42460394)
		
	Summa	500-9807 (BDF-46)
31447	ESKO Kongsberg	BLD-SF346 (42458406)
	Zünd	Z46 (4800073)
		
31446	Summa	390-534 (BDR-S36T)
		
31532	Summa	391-360

ER SPRING COLLETS
DIN 6499 - ISO 15488



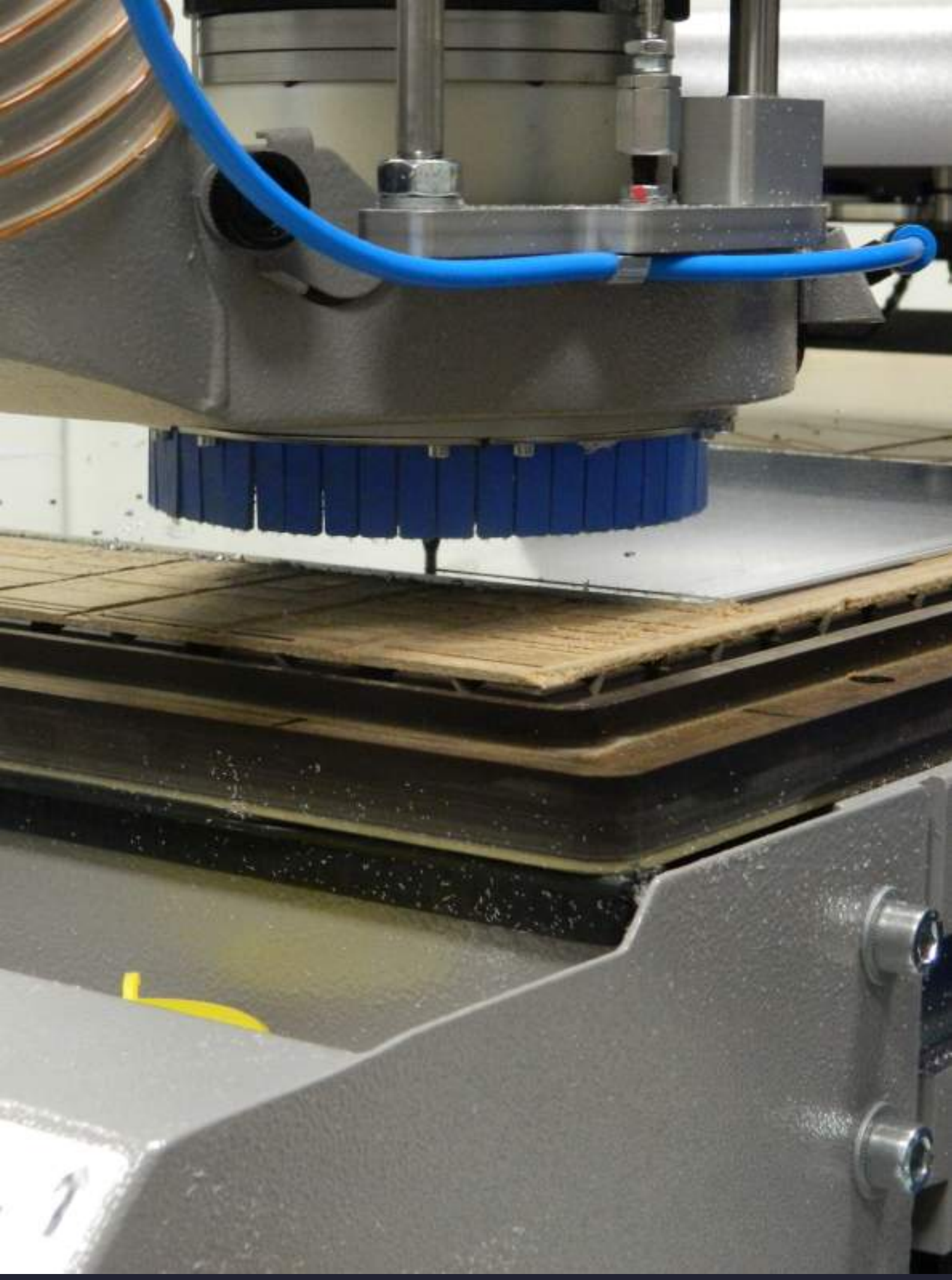
	D (mm)	T (mm)
ER16	17	27.5
ER20	21	31.5
ER25	26	34
ER32	33	40

ER 16	
Ref	Clamping range
Collet ER16 Ø2.00	**Ø2.0** to Ø1.0
Collet ER16 Ø2.50	**Ø2.5**
Collet ER16 Ø3.00	**Ø3.0** to Ø2.0
Collet ER16 Ø4.00	**Ø4.0** to Ø3.0
Collet ER16 Ø5.00	**Ø5.0** to Ø4.0
Collet ER16 Ø6.00	**Ø6.0** to Ø5.0
Collet ER16 Ø8.00	**Ø8.0** to Ø7.0
Collet ER16 Ø10.00	**Ø10.0** to Ø9.0

ER 20	
Ref	Clamping range
Collet ER20 Ø2.00	**Ø2.0** to Ø1.0
Collet ER20 Ø2.50	**Ø2.5**
Collet ER20 Ø3.00	**Ø3.0** to Ø2.0
Collet ER20 Ø4.00	**Ø4.0** to Ø3.0
Collet ER20 Ø5.00	**Ø5.0** to Ø4.0
Collet ER20 Ø6.00	**Ø6.0** to Ø5.0
Collet ER20 Ø8.00	**Ø8.0** to Ø7.0
Collet ER20 Ø10.00	**Ø10.0** to Ø9.0
Collet ER20 Ø12.00	**Ø12.0** to Ø11.0

ER 25	
Ref	Clamping range
Collet ER25 Ø2.00	**Ø2.0** to Ø1.0
Collet ER25 Ø2.50	**Ø2.5**
Collet ER25 Ø3.00	**Ø3.0** to Ø2.0
Collet ER25 Ø4.00	**Ø4.0** to Ø3.0
Collet ER25 Ø5.00	**Ø5.0** to Ø4.0
Collet ER25 Ø6.00	**Ø6.0** to Ø5.0
Collet ER25 Ø8.00	**Ø8.0** to Ø7.0
Collet ER25 Ø10.00	**Ø10.0** to Ø9.0
Collet ER25 Ø12.00	**Ø12.0** to Ø11.0

ER 32	
Ref	Clamping range
Collet ER32 Ø2.00	**Ø2.0** to Ø1.0
Collet ER32 Ø2.50	**Ø2.5**
Collet ER32 Ø3.00	**Ø3.0** to Ø2.0
Collet ER32 Ø4.00	**Ø4.0** to Ø3.0
Collet ER32 Ø5.00	**Ø5.0** to Ø4.0
Collet ER32 Ø6.00	**Ø6.0** to Ø5.0
Collet ER32 Ø8.00	**Ø8.0** to Ø7.0
Collet ER32 Ø10.00	**Ø10.0** to Ø9.0
Collet ER32 Ø12.00	**Ø12.0** to Ø11.0
Collet ER32 Ø14.00	**Ø14.0** to Ø13.0
Collet ER32 Ø16.00	**Ø16.0** to Ø15.0



CUTTING CONDITIONS (GUIDELINE DATA)

Calculation of the rotational speed of the spindle	n = (1000 x VC) / (π x D)
Calculation of the feed speed:	Vf = Fz x Z x N
Calculation of the cutting speed	Vc = (n x π x D) / 1000
Calculation of the feed per tooth	Fz = Vf / (Z x n)

π = 3.1416

Tool diameter	D	mm
Number of teeth	Z	
Cutting speed	Vc	m/min
Rotational speed	N	rpm
Feed per tooth	Fz	mm/z
Feed speed	Vf	mm/min

FOR EXAMPLE:
Single-tooth, Ø6 cutter
Material: PMMA
Vc = 450
Fz = 0.07

Rotational speed:
n = (1,000 x 450) / (π x 6) = 23,873 (24,000 rpm)
Feed:
Vf = 0.07 x 1 x 24,000 = 1,680 mm/min

MATERIALS		Feed per tooth Fz <Ø3	Ø3 to Ø5	Ø5 to Ø8	Ø8 to Ø14
Aluminium alloy	200 to 400	0.01 - 0.03	0.025 - 0.05	0.04 - 0.09	0.07 - 0.17
Unalloyed aluminium (1,000)	200 to 400	0.04 - 0.06	0.05 - 0.10	0.08 - 0.17	0.12 - 0.25
Brass	200 to 400	0.01 - 0.03	0.03 - 0.06	0.06 - 0.09	0.08 - 0.12
Bronze	100 to 150	0.008 - 0.02	0.02 - 0.04	0.035 - 0.05	0.05 - 0.08
Copper	150 to 300	0.01 - 0.03	0.015 - 0.04	0.03 - 0.07	0.06 - 0.14
Thermoplastics, Plexiglass, ABS,	300 to 500	0.02 - 0.05	0.05 - 0.08	0.07 - 0.14	0.12 - 0.25
Nylon, polyethylene, Acetate, High-impact PS	150 to 350	0.07 - 0.10	0.1 - 0.2	0.2 - 0.3	0.3 - 0.4
Plastics - PVC - PE - PP	100 to 300	0.045 - 0.11	0.10 - 0.20	0.18- 0.35	0.20 - 0.45
Expanded PVC	250 to 500	0.08 - 0.15	0.15 - 0.25	0.25- 0.35	0.20 - 0.45
POM-C, PA6	200 to 400	0.02 - 0.05	0.05 - 0.08	0.07- 0.14	0.12 - 0.25
PEHD (500 - 1000)	300 to 450	0.04 - 0.08	0.08 - 0.12	0.12 - 0.25	0.25 - 0.35
High-impact PS	150 to 250	0.04 - 0.1	0.1 - 0.15	0.1 - 0.3	0.2 - 0.5
Corian	400 to 500	0.03 - 0.045	0.045 - 0.06	0.06 - 0.09	0.09 - 0.14
Polyester, PC, PET	250 to 400	0.015 - 0.025	0.025 - 0.04	0.04 - 0.08	0.08 - 0.12
PETG	400 to 500	0.02 - 0.04	0.045 - 0.07	0.06 - 0.10	0.09 - 0.15
Bakelite	100 to 250	0.04 - 0.06	0.05 - 0.10	0.08 - 0.17	0.12 - 0.25
Foamed materials	300 to 350	0.07 - 0.10	0.1 - 0.2	0.2 - 0.3	0.3 - 0.4
Horn	150 to 350	0.03 - 0.045	0.045 - 0.06	0.06 - 0.09	0.09 - 0.14
LAB	250 to 400	0.04 - 0.07	0.06 - 0.1	0.1 - 0.2	0.2 - 0.3
Natural PEEK	250 to 450	0.01 - 0.025	0.02 - 0.04	0.035 - 0.07	0.07 - 0.11
Wood	300 to 450	0.015 - 0.07	0.05 - 0.1	0.07 - 0.15	0.12 - 0.25
MDF with Z1	250 to 400	0.04 - 0.08	0.08 - 0.12	0.1 - 0.15	0.15 - 0.2
MDF with 4030	300 to 700			0.15 - 0.20	0.15 - 0.3
Trespa	300 to 500	0.04 - 0.08	0.08 - 0.12	0.1 - 0.15	0.15 - 0.2
Stainless steel	40 to 90	0.008 - 0.015	0.01 - 0.02	0.015 - 0.04	0.03 - 0.06
Galvanised steel	100 - 150	0.008 - 0.015	0.02 - 0.03	0.03 - 0.05	0.04 - 0.08

IMPACT OF COLLETS ON CUTTING QUALITY

Poor collet condition accounts for the majority of the problems encountered: poor surface finishes, shorter tool life, abnormal machining noises, etc.
Perfect machining is only possible when every element in the clamping chain (spindle, chuck, collet) is in perfect condition.

MAINTAINING SPRING COLLETS

During machining, chips and dust particles lodge inside collets.
For this reason, collets must be well maintained.
We recommend that you systematically clean the collet and the tool holder carefully at every tool changeover.
Apply a rust inhibiting product to collets before putting them in storage (remember to remove this product before reusing the collet).

SERVICE LIFE OF COLLETS

Collets are wear parts and as such must be replaced regularly. They lose their elasticity and are marked by the various tools they come into contact with.
As a preventive measure, we recommend replacing them approximately every 500 hours.

Well-serviced collets may last much longer.
A collet must be replaced if the tool it was holding broke, since this would mark the collet and make the runout incompatible with high quality machining.

GOOD CLAMPING PRACTICES

The tool must be held by as much of the collet's gripping surface as possible; at least 80 % of the length of the collet. This lets the tool rotate concentrically and limits vibrations that have an adverse effect on cutting quality.z

TOOL INSERTED TOO FAR INTO THE COLLET.

Bad runout is possible.
Chips can get inside the collet.

TOOL INSUFFICIENTLY INSERTED.

Bad runoutt
Vibration, poor surface finishes.
Breakage possible
Reduced service life
Worsening cutting conditions

TOOL CORRECTLY INSERTED

2 to 3 mm of shank visible after the end of the flute.

ADVICE ABOUT MACHINING

PREAMBLE:

The key principles and recommendations are covered below.
Machining quality is dependent on many criteria. The five criteria for success are:
1) Production equipment: condition and choice of equipment (machine, spindle, suction, workpiece clamping, choice of cutting tool, etc.)
2) Machining method and strategy: machining direction (conventional (up) or down), number of cuts, type of entrance into the cut (angular, tangential), use or not of sprayed lubricant, etc.
3) Human resources: training, level of experience of the technicians in using the production resources.
4) Material: type and quality of the material.
5) Environment: dust, vibration, temperature (workshop and material), etc.
And also, required surface finish and target machining time.

IMPACT OF SPINDLE POWER:

In general, low-power spindles (0.5 to 1.5 kW) can reach high rotational speeds, but deliver very low torque at low speeds. They should not, therefore, be fitted with tools whose diameter is more than 6 mm.
When machining thick materials, the number of cuts must be increased.

For cutters with a diameter of less than 4 mm, the axial depth of cut (Ap) should be equal to the Ø and be about 3 mm for cutters with a diameter of 5 to 6 mm.

ROTATIONAL SPEED OF SPINDLE: (REFER TO PAGE 54 “CUTTING CONDITIONS”)

The calculations (given in page 54 of this catalogue) used to determine the rotational speed of the spindle clearly show that when the Ø of the tool is larger, the rotational speed of the spindle needs to be reduced, irrespective of the material. The rotational speed should also be adjusted to suit the properties of the material.

For example: when machining soft materials, the rotational speed should be lower so as not to heat the material.
The rotational speed should also be reduced if the tool is long (since the potential out-of-balance is greater as is the risk of breakage and vibration).

FEED: (REFER TO PAGE 54 “CUTTING CONDITIONS”)

A small-diameter tool is more susceptible to bending. The feed speed should therefore be set lower than that possible with a larger diameter.
The same principle applies for tools that have a long cutting length - the feed should be reduced since this type of tool generates a lot of bending.
When machining soft materials, the feed speed can be increased so as not to heat up the material.

Take care when calculating the feed speed: when you increase the number of teeth, you need to reduce the Fz value due to the impact of less effective chip evacuation (you cannot go three times quicker with three teeth than you can with one tooth).

The in-feed (or plunge) speed is normally half, or even a third, of the feed speed.
The impact on the machining time is not too significant, but this lower speed increases the service life of the tool (by protecting the tip) and the spindle.
(It can even be lower. For example: Ø 20 face cutter fed directly onto the material:
in-feed (plunge) speed of about 50 mm/min)

There is no benefit in setting a very high feed for very small workpieces. The reason is that the machine only very rarely reaches this speed; the gain in time and in surface finish is very small. However, the geometry of the workpieces and the service life of the cutters is degraded.

"RUNNING-IN" PERIOD FOR NEW TOOLS:

New tools being used for the first time will not produce their best surface finish until the tool has machined a few metres of material, due to the extremely sharp edges on new tools.
This is particularly true for single-tooth tools used to machine plastics.
The 4053 series cuts less aggressively and does not need to be "run in".

CHOICE OF USEFUL LENGTH OF TOOL:

The useful length must be greater than the thickness to be cut, without being too long, since this leads to:
- A longer unsupported length,
- A less rigid and more breakable tool,
- An impaired surface finish and shorter tool life.

HELIX DIRECTION:

Upcut cutters with a right-handed cut tend to pull the machined workpiece towards the tool: the chips are very well evacuated, but the workpiece must be clamped securely to avoid any vibration problems.
Downcut cutters with a right-handed cut tend to push the machined workpiece against the table of the machine, which reduces clamping-related issues. There will be no delamination of the material near the surface of the workpiece, but the chips will be poorly evacuated (with a risk of chip jamming).
Excellent chip suction or providing clear space under the workpiece are recommended.

SURFACE FINISH:

A number of criteria need to be satisfied to obtain a good surface finish, with feed speed far from being the only one.
- Securely holding the workpiece (extremely important).
- The right tool for the type and thickness of the material.
- Good condition of the machine (shafts, spindles, tapers, collets, etc.) and tool.
- Good chip suction.
- Good cutting conditions.
- Good machining strategies.

FINISHING CUT:

Removing 0.3 to 0.5 mm of material with a finishing cut is a good way to obtain a better surface finish for many materials. This eliminates any built-up edge-related issues and smooths out the effects of vibration. However, this is not true for all materials.

MACHINING THE BOTTOM OF POCKETS:

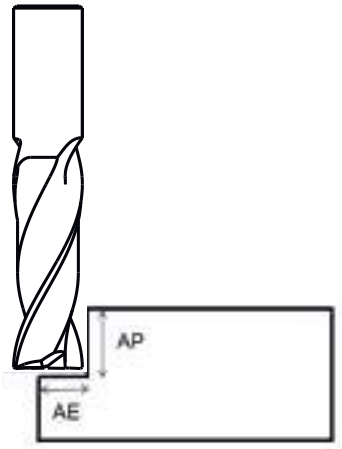
One-flute cutters, due to their geometry, do not produce the best surface finish in the bottom of pockets. Two-flute cutters have flatter tips and produce a better surface finish.
Smaller overlaps and lower speeds also greatly improve the surface finish.

ADVICE ABOUT DEPTHS OF CUT.

RADIAL DEPTH OF CUT, AE:
When contouring (or profiling) a workpiece, it is advisable to reduce the radial depth of cut (Ae) when machining hard materials and when using small-diameter tools.

AXIAL DEPTH OF CUT, AP:
For most plastics, the Ap should be 1 to 2 times the tool diameter.
For non-ferrous metals (aluminium, etc.), it should be 0.5 to 1 times the diameter of the tool.

THESE ARE GUIDELINE VALUES.
For example: for expanded PVC, the Ap can be 3 to 4 times the tool Ø (for tools with a Ø of 6 mm and above)



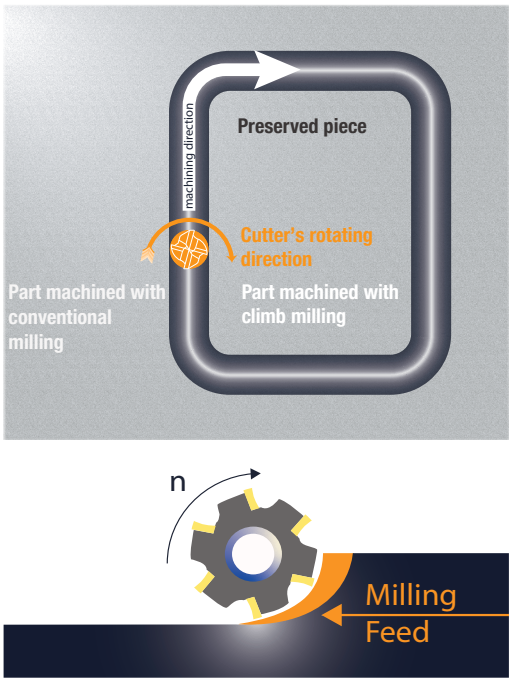
MACHINING DIRECTION

THE CHOICE OF MACHINING DIRECTION IS PRIMARILY DETERMINED BY THE DESIRED QUALITY OF THE SURFACE FINISH. THE PROPERTIES OF THE MATERIAL ALSO HAS TO BE CONSIDERED.

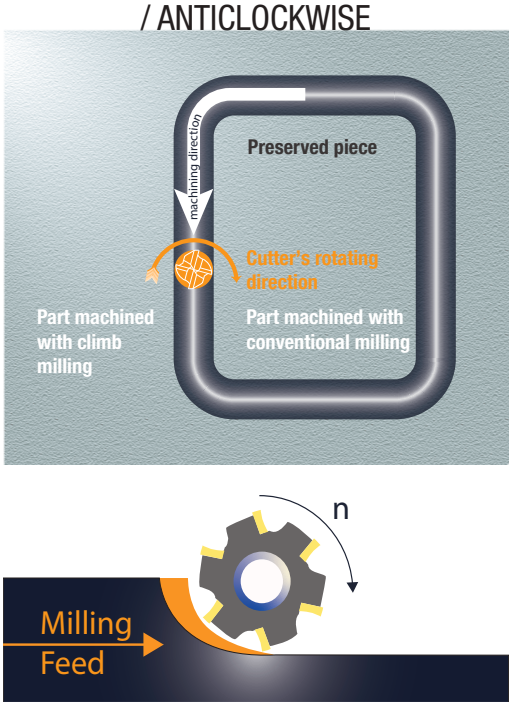
Down (or climb) milling is used for most plastics.
The cuts are more “gentle”.

Conventional (up) milling tends to be used for soft or fibrous materials.
The cut is more “aggressive”.

CLIMB MILLING / CLOCKWISE



CONVENTIONAL (UP) MILLING / ANTICLOCKWISE



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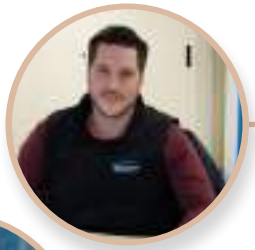

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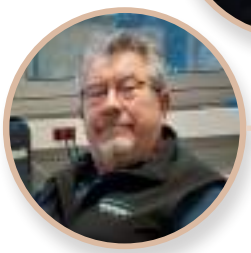

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